With the Medical Officer of Health's Compliments.

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1890

CITY & COUNTY OF BRISTOL.

Port of Bristol.

ANNUAL REPORT

OF THE

Medical Officer of Health.

Printed by Order of the Sanitary Committee.

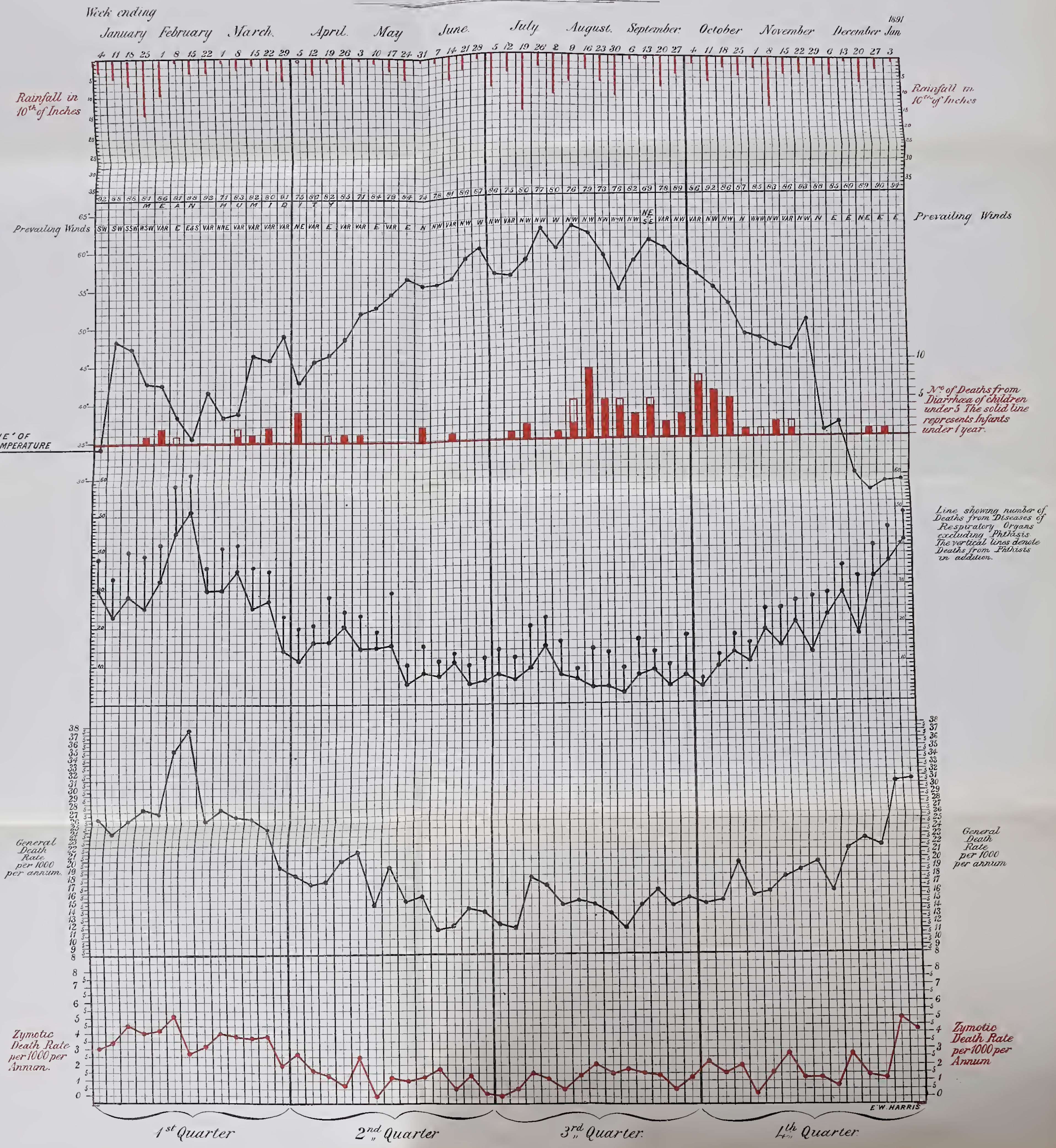
BRISTOL:
GEO. DU BOISTEL & CO., MACHINE PRINTERS, BRIDGE STREET.
1891.

STATISTICAL SOCIETY
6 - MAR 95

infall in
of Inches

CHART

Showing Mean Temperature, Rainfall, relative Humidity, (saturation - 100) prevailing Winds, also Number of Deaths returned from Diseases of Respiratory Organs excluding Phthisis, from Phthisis, and from Diarrhœa, the General Death Rate and the Zymotic Death Rate in the Bristol Sanitary District for each Week of the Year 1890.



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1891.

SANITARY COMMITTEE,

1890-91.

The Mayor : Sir Charles Wathen.

Chairman : Mr. Alderman Cope-Proctor.

Vice-Chairman : Mr. Councillor Pearson.

Mr. Councillor Barker

Mr. Councillor Barnett

Mr. Councillor Bastow

Mr. Councillor Coulthard

Mr. Alderman Dix

Mr. Councillor Fear

Mr. Councillor Levy

Mr. Councillor Lewis

Mr. Councillor Lloyd

Mr. Councillor Swaish

Mr. Councillor Todd

Mr. Councillor Walls

BRISTOL SANITARY AUTHORITY.

MEDICAL OFFICER OF HEALTH'S DEPARTMENT, 1890.

Medical Officer of Health for City and Port—
D. S. DAVIES, M.B., LOND., D.P.H., CAMB.

Assistant Port Medical Officer of Health—
J. C. HEAVEN, L.R.C.P., M.R.C.S., D.P.H.

URBAN STAFF.

Inspector of Nuisances—Chief Inspector J. W. KIRLEY.

District Sanitary Inspectors—
No. 1 District—*‡T. LOWTHER, Sub-Inspector of Nuisances.
No. 2 District—*H. HASELL.
No. 3 District—*J. WILKINSON.
No. 4 District—G. E. BUSH. †J. F. COTTY.
No. 5 District—H. CALCUTT. *H. J. KIRLEY.

Inspector of Bakehouses and Common Lodging Houses—
*S. O. DIMOND.

Inspector of Meat, Fish, and Slaughter Houses—G. DENT.
Inspector of Dairies, Cowsheds, and Milkshops—†E. J. CASELY.
Inspector of Houses let in Lodgings, &c. { *†W. H. PERRY. H. J. KIRLEY.

Statistical Clerk—E. W. HARRIS.

Clerk—R. R. WARREN.

PORT STAFF.

Port Inspector of Nuisances—Chief Port Inspector S. O. DIMOND.
Resident Inspector at Avonmouth Hospital—E. MAYNE.
Port Authority's Boatman—A. DICKENS.

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* Holds Inspector's Certificate of Sanitary Institute.
‡ Holds Surveyor's Certificate of Sanitary Institute.
† Registered Plumber.

Report.

To The Chairman and Members of the Sanitary Committee.

Report for the Year 1890.

PART I.

Public Health Department,
Medical Officer of Health's Offices,
40, Prince Street, Bristol,
March, 1891.

Mr. Chairman and Gentlemen,

The year 1890 has been associated with a very considerable extension of useful work in this Department, and this extension has taken place in two chief directions, one in connection with the registration and better control of Infectious Diseases the other in connection with work directed to secure the better housing of the poor.

Notification of Infectious Disease.

The Notification Act of 1889, which had been adopted in January, came into operation upon February 12th, and has continued to work throughout the year in a very satisfactory manner. Notification

Notification.

As your Committee is aware, the Act puts no additional powers into the hands either of your Committee or of your Officers. It provides simply for immediate notification, under a penalty of forty shillings, to the Medical Officer of Health of every case of infectious disease to which the Act applies:—

1.—By the head of the family to which the patient belongs, or, in his default, by the nearest relative in attendance, or by the occupier of the house.

2.—By every medical practitioner attending, or called in to visit the patient.

By this means your Medical Officer of Health is put in possession of most valuable and complete information as to the extent and localisation of infectious cases in the district.

The diseases to which the Act applies, are—

Small Pox
Cholera
Diphtheria
Membranous Croup
Erysipelas
The disease known as
Scarlet Fever or
Scarlatina

And the Fevers known by any of the following names:—
Typhus
Typhoid
Enteric
Relapsing, Continued, or Puerperal

and other Infectious Diseases may, by resolution, and with the approval of the Local Government Board, be included amongst those compulsorily notifiable; but, for reasons which will hereafter appear, it has not yet seemed expedient to advise your Committee to include any further diseases.

The advantages to be gained by the proper use of this knowledge may be briefly indicated:—

1.—By the making of immediate enquiry, upon notification of disease, the existence of any insanitary conditions are discovered and rectified at the outset. This principle of early enquiry into the circumstances of every notified case is carefully observed.

Notification.

The City is divided, for Inspection purposes generally, into five Districts, whose boundaries are determined as a matter of convenience, not by the limits of the sub-registration Districts, which are somewhat intricate, but by well-defined main thoroughfares, or other well-marked limits.

As each notification is received, it is duly stamped and dated, and receives its consecutive number; the locality is then entered on the fortnightly dotted map, and the case is entered in the Disease Record Book for the particular Disease. The particulars are then transferred to the enquiry card for the Inspector's pocket book, and the notification itself is pasted in the Notification Book opposite its consecutive number, and indexed.

The District Inspectors attend at office daily, from 12 to 1, and receive their enquiry cards with instructions—any cases notified during the afternoon are either forwarded at once to the Inspector, or, if of less urgency, are retained for distribution at the usual hour. The removal officer in charge of the ambulance attends office at midday, and again at 4.30 to meet the Medical Officer of Health.

2.—In every case notified, a circular (A), approved by your Committee, is left—to warn the householders of the penalties incurred under the Public Health Acts in connection with the exposure of infected persons, clothing, and other articles, and of the powers and duties of the Sanitary Authority in relation to disinfection. By this means a sense of responsibility is brought home to every householder, which otherwise he is in many instances entirely without. I believe this to be a step of the first importance in preventing the spread of infectious disease. As Dr. Seaton has pointed out,—"In this respect the function of the Sanitary Committee is educational, and the great advantage is, that the lesson is taught to the people at a time when they are likely to heed it. No one who sends a child to school peeling from Scarlet Fever, or lets an infected house to some one else, can now plead ignorance as an excuse, as was always done formerly.

Notification.

3.—In each case also, a Memorandum (B) pointing out the necessity for disinfection, and the best method of securing its efficient performance, is left at the house. The established practice is for your Authority to undertake the disinfection of all private houses by your officers, and to remove infected bedding and clothing for treatment by steam heat; in place of holding the occupier responsible for the performance of efficient disinfection; for it appears to be obvious that efficient means for its performance are necessarily absent from private houses, and experience also has sufficiently shown that private disinfection can in very few instances be relied upon.

4.—The School Board is made aware through us, by a Memorandum (C) of the existence of infectious disease in families attending school, and in this way is exercised a very salutary check upon the bringing of children to Board Schools when they are in such a condition as to be liable to give the disease to others. At present, as it has not been deemed advisable to include Measles and Whooping Cough amongst notifiable diseases, the full benefit of this dealing with schools is not felt, but very considerable advantage undoubtedly results from its application in the case of Scarlet Fever or Diphtheria.

5.—The full intention of Notification as a sanitary defence is obviously not realized until every case, in which the home surroundings are not such as to provide *complete* isolation, is removed to Hospital where such isolation is practicable. At present, but a very small percentage of known cases is removed to Hospital from such houses; but, judging from the experience of other towns, the provision of adequate Hospital accommodation is followed in the course of a few years by a very large increase in the numbers availing themselves of this protection.* The mortality amongst patients properly nursed in Hospital is, as I pointed out in my last Annual Report, very much smaller than amongst the same class of patients nursed at home, while the chance of spreading the disease is minimised by removal to Hospital; and there is no obvious reason why Scarlet Fever, at present a constant and fatal endemic disease, should not be, if isolation in every case could be strictly carried out, relegated to the position of an occasional and, relatively, a harmless visitor.

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* *Cf.* Annual Report of Medical Officer of Health for Birmingham, for 1889.

Housing of the Poor.

Housing of the Poor.

During the past few years considerable and increasing attention has been devoted by your Committee to the improvement of the sanitary condition of the dwellings of the poor. In addition to the general supervision which has for many years been exercised, with good results, by the district inspectors, it has of late years been recognised that there are certain districts, which, owing in some part to the habits of the occupants, and in other part to the nature of the dwellings and the apathy of owners, need more constant and continuous supervision in order to keep them in satisfactory order.

The argument for such increased supervision had been strengthened by the excellent results obtained in recent years in connection with those former haunts of fever,—Common Lodging Houses, amongst which, for the past five years, no single case of infectious disease has been observed; and a definite extension, in 1889, of similar registration and supervision to other houses "let in lodgings" in the poorer districts under the Model Bye-Laws adopted in that year, was the first practical outcome of the movement.

Again, in 1890, two assistant district inspectors were appointed for the especial purpose of instituting and carrying on a house to house inspection in certain districts chosen as the poorest and most neglected, and it is your Committee's intention to appoint two additional assistant inspectors, in order to extend the same kind of useful supervision.

Housing of the Poor.

The good work already secured under these various heads is set forth in detail in Part II of this Report, under the head of Systematic Inspections.

The Housing of the Working Classes Act of 1890 (dated 18th August), has proved of great service in the furtherance of this work, by its consolidation and amendment of the 15 various Acts relating to the subject matter, which it repeals; and has rendered effectual action in securing the closing, and, if necessary, the demolition of insanitary houses much more straightforward and workable. Up to the end of the year 32 houses had been dealt with under the provisions of Part II of the Act, as will be seen upon reference to the Inspector of Nuisances' Report.

Under Part I of the Act, relating to "Unhealthy Areas," certain groups of houses were also reported, and have received your Committee's very careful attention, but no definite result can as yet be recorded, as the matter is still under consideration.

In general, it would not appear that there are in this City unhealthy areas of such extent as to need the preparation of a large scheme under this part of the Act; but that such insanitary localities as exist can as effectually be dealt with under the second part of the Act, in conjunction with the Public Health Act of 1875.

I have no doubt that a judicious use of the powers in relation to the dwellings of the working classes, as furnished by the Act of 1890, will result in considerable and much needed improvement in many localities.

Building Bye-Laws.

I have had occasion to advert, in more than one previous Report, to the necessity for the addition to the Building Bye-Laws in force in the district, and enforced by the Surveyor's Department, of certain supplementary regulations as to the provision of proper means for securing the thorough dryness

Building Bye-Laws.

of buildings, and for preventing dampness or contamination from the soil,—matters of extreme importance in relation to the public health; and I am glad to be able to report that the following Regulations to this end, for some time under consideration, have been finally adopted while this Report is in preparation.

The supplementary Bye-Laws bear the date of 13th January, 1891, and the clauses having special reference to matters of health are the following:—

> 3. A person who shall erect a new building shall not construct any foundation of such building upon any site which shall have been filled up with any material impregnated with fœcal matter, or impregnated with any animal or vegetable matter, or upon which any such matter may have been deposited, unless and until such matter shall have been properly removed by excavation or otherwise from such site.
>
> 4. Every person who shall erect a new building, shall cause every wall of such building to have a proper damp course of sheet lead, asphalte, or slates, laid in cement, or of other durable material, impervious to moisture, beneath the level of the lowest timbers, and at a height of not less than six inches above the surface of the ground adjoining such wall.
>
> 7. Every person who shall erect a new domestic building, shall cause the whole ground surface under every room which shall be situated in the lowest storey of such building, and shall be provided with a boarded floor, to be properly asphalted or covered with a layer of good cement concrete rammed solid, at least six inches thick, and shall so construct every such room that there shall be for the purpose of ven-

Building Bye-Laws

tilation, between the under side of every joist on which such floor may be laid and the upper surface of the asphalte or concrete with which the ground surface under such room may be covered, a clear space of three inches at the least in every part, and he shall cause such space to be thoroughly ventilated by means of suitable and sufficient air-bricks, or by some other effectual method.

These provisions should prove valuable additions to the present Bye-Laws, and the only cause for regret is that they cannot be made retrospective, as there are very many houses in the City, in poor and well-to-do parts alike, in which dampness of basement renders the lower rooms unfit for living, sleeping, or storage rooms.

The new Bye-Laws, do not, I observe, include any further definition of the requirements as to the drainage of new houses, than are contained in the Building Bye-Laws, of date 1871; it would be more satisfactory, and would tend to greater uniformity, if the provisions of the Model Bye-Laws were adopted to regulate the construction of drainage in all new houses.

Disposal of House Refuse and Ashes.

The deposition of large quantities of house refuse and ashes at "depôts" or "tips" approved by your Committee, has of late years, owing to the extension of the City and the consequent difficulty of finding space where refuse can be deposited without offence, become the cause of considerable complaint; and it has for some time past become sufficiently evident that some other means must be adopted for getting rid of or rendering innocuous this waste material.

Provision of Destructor.

The plan of incineration of this refuse in a "Destructor" has commended itself to your Committee, and the City Engineer informs me that one of 16 cells is in course of construction, estimated to deal with the house refuse of a population of 160,000 persons. Two-thirds of the City refuse will thus be "converted" upon completion of this "Destructor," while, should any difficulty arise in the disposal of the remaining third, the addition of eight cells will enable the whole to be dealt with. All fumes resulting from the "conversion" will be passed through a Jones' Cremator, so as to minimise any offensive odours, and I trust this plan will prove to be a satisfactory and complete solution of a difficult question.

Provision of Destructor.

Floods.

Floods

No recurrence of the disastrous floods of 1889 occurred in 1890, and throughout the year considerable work has been executed under the direction of the Floods Committee, chiefly consisting in the construction of a relief culvert, in the removal of sundry and serious obstructions in the bed of the Froom, and in the widening and reconstruction of bridges over the stream. The work is still in active progress, and I trust that the result of the undertaking will be to effectually prevent any recurrence of a disaster so dangerous to the public health

Public Slaughter-Houses.

Public Abbattoirs.

While the condition of Bristol slaughter-houses is, as pointed out in Part II, kept fairly satisfactory by constant inspection, there is no doubt that the erection of a public abattoir or abattoirs would be of great service in some districts where the slaughter-houses are not only inconvenient in themselves, but badly situated in reference to dwelling-houses.

The yearly licensing of slaughter houses now possible by Sec. 29 of the Public Health Acts Amendment Act, 1890, puts a useful controlling power into the hands of your Authority.

Infectious Diseases Hospital.

Hospital for Infectious Diseases

The accommodation for infectious cases in the City remains at present the same as in 1888, when I reported at length upon this question. Of the 290 available beds in the City, 246 are in the hands of the Guardians, and are thus not available for the isolation of non-pauper patients, while only 44 beds, 16 of which are in temporary huts erected during the small-pox epidemic of 1887-8, are at the disposal of your Committee. The 14 beds intended for small-pox are in a building so near to the scarlet fever wards, that it would be inexpedient, in view of recent knowledge, to utilize them when any patients are in the fever wards; and thus scarlet fever accommodation only is available for non-pauper patients, unless use is made of the Avonmouth Port Hospital. Cases of enteric fever are received into the general wards at the Hospital and Infirmary, but no accommodation for these cases is available at your Authority's Hospitals.

Your Committee has fully recognised the unsatisfactory condition of affairs, and it has been decided to erect sufficient accommodation for infectious cases upon a suitable site; and, by the instruction of your Committee, I have reported to you in detail upon the nature and extent of accommodation needed.

At present the negotiations for a site, which your Committee considers suitable, are in progress, and upon their satisfactory completion, no time need be lost in commencing the erection of the Hospital, the need for which is being daily emphasized, as our present accommodation is quite insufficient to provide for all cases requiring isolation, of which our information, as afforded by the Notification Act, is now fairly complete.

I am, Gentlemen,

Your obedient servant,

D. S. DAVIES, *M.B., Lond., D.P.H. Cantab.*,

Medical Officer of Health.

General Sanitary Condition of the City and County of Bristol at the end of the Year 1890.

Limits.

General Sanitary Condition, 1890.

The limits of the Urban Sanitary District are coterminous with those of the City and County of Bristol; the new Parliamentary Borough has much wider limits.

This Urban District (population 1881, 206,503) is bounded on the North by the Parish of Westbury in the Barton Regis Rural Sanitary District, and by the Local Board District of Horfield (population 1881, 5,739. Inhabited houses 1881, 957. Acreage 1,301). On the East by the Local Board District of Stapleton (population 1881, 10,833. Inhabited houses 1881, 1,546. Acreage 2,554); and by the Local Board District of St. George (population 1881, 26,433. Inhabited houses 1881, 4,900. Acreage 1,831); and on the South and West by the Bedminster Rural Sanitary District, from which, towards the West, it is separated by the River Avon.

Site and Soil.

Bristol is situated in N. Lat. 51° 27′ 6·3″ and W. Long. 2°·35′ 28·6″. The old City lies in great part on low ground in a broad valley lined by the alluvial deposit of the Avon, and its tributary the Frome; parts of the City, *e.g.*, General Sanitary Condition, 1890.

High Street and Redcliff, being upon higher ground on the new red sandstone (trias), through which rock the New Cut or artificial course of the Avon has been made, and upon which Bedminster is built.

The high table land of Clifton, Cotham, and Redland, to the north and west of the City, is situated upon the denuded edges of an anticlinal arch of carboniferous rocks, upon which, in certain limited areas, beds of newer formation (*e.g.*, lias) lie unconformably. On Clifton and Durdham Down the carboniferous limestone is exposed over a large area; and here the gorge of the Avon, cut by the river as it turns to the north to join the Severn, forms the western boundary of the district.

The steep ascents, extending from Granby Hill on the west, past Brandon Hill to St. Michael's Hill and Marlborough Hill on the east, are on the outcrop of the millstone grit.

Considerable portions of the north-east and east parts of the City lie upon the new red sandstone, while Totterdown, part of Cotham, and the slope towards Ashley are upon beds of lias limestone.

*Water Supply.

Water Supply.

The Water Supply is in the hands of a private Company, and is obtained by gravitation from springs in the triassic conglomerates, and in the carboniferous limestone on the sides of the Mendips, at distances of from 5 to 16 miles from the City. The water from two of these springs (Sherborne and Coldbath) is brought direct into the City; that from the other springs is intercepted by the storage reservoirs at Barrow Gurney, 310 feet above Ordnance datum, with an extreme holding capacity of 750,000,000 gallons, whence it is brought into the City, joining the direct supplies at Redcliff. The combined waters supply the lower parts of the City *en route*, and also rise by gravitation to the pumping station and reservoir at Oakfield Road (200 feet above O.D.), from which they are pumped up to the Durdham Down service reservoir (320 feet above O.D.), for the supply of Clifton and the higher parts of the district.

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* I am indebted to A. J. Alexander, Esq., the Secretary to the Bristol Water Works, for correction of particulars relating to Water Supply.

Water Supply

After the dry winters of 1861-63, it was found necessary to provide permanent pumping works for a supplementary supply in dry years, from wells at Chelvey, eight miles from Bristol, sunk in the new red sandstone (triassic), 200 yards from any inhabited place. These pumping works are now in course of duplication.

The water is supplied to the City at constant service, and the present daily supply per head is calculated at 23 gallons.

All water supplied from the Barrow store reservoirs is now filtered before delivery.

As to any risk of excremental contamination, the water appears to be above suspicion; and no case of disease has within our knowledge ever been traced to its use.

The Company has power to make an annual charge for each closet flush, in addition to the charges for other domestic purposes; hence the majority of out-door closets throughout the City are dependent upon hand-flushing.

New Source of Supply.

New source of Supply.—In 1888 the Company obtained powers to take the Richford Spring, near Blagdon, and the Langford Spring, at Langford, subject to a reservation of prior claims of the district upon those springs; and in 1889 they obtained powers to make a reservoir by impounding the river Yeo. This reservoir, to contain a maximum of 1,500,000,000 gallons, will receive the water from these combined sources, and from it the water will be lifted to join the storage at Barrow. The source of the Yeo is from deep springs, similar to those furnishing the established supply.

A recent Analysis[*] of the Bristol Water Company's supply drawn from service pipes in College Green and at Ashton Gate Board Schools, mixed, gave the following results:—

Analysis.

Saline Ammonia	less than ·005
Albuminoid Ammonia	,, ,, ·002
Nitrogen as Nitrates	·083
Oxygen required to Oxidize, 1 hour	·014
,, ,, ,, 3 hours	·021
Hardness by Soap test	Total 19·0° Permanent 6¼°
Magnesium precipitated on Boiling	·24
,, not precipitated	·36
Total	·60
Calcium precipitated on Boiling	5·07
,, not precipitated	1·79
Total	6·86
Sodium with a small amount of Potassium	·50
Chlorine	·77
Sulphuric Radical (SO_4)	1·33
Nitric Radical (NO_3)	·37
Carbonic Radical (CO_3) with trace of Phosphoric Acid, Silica, Organic Matters, &c.	12·25
Lead, Copper, Arsenic, and other poisonous metals	Absent
	22·68
These Constituents may conveniently be regarded as being combined together, thus—	
Carbonate of Lime	17·2
,, Magnesia	·7
Sulphate of Magnesia	1·7
Nitrate of Magnesia	·5
Chloride of Sodium (with a little Chloride of of Potassium)	1·3
Silica, Phosphoric Acid, Organic Matters, &c.	1·2
	22·6

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[*] By Dr. Alder Wright.

Private Wells.

Water Supply.

In the older parts of the City many private wells still exist, the water from which is often preferred to the Company's supply, on various grounds. It is difficult in most cases to convince consumers of the ever-present danger that must attend the use of water drawn from wells in the midst of a large City, where the subsoil from which the water is collected is necessarily loaded with the filth resulting from the life-conditions of more than 230,000 persons.

The late Mr. W. W. Stoddart, F.G.S., very clearly showed the conditions of danger which must attach to wells in the City. In a paper read before the Association of Municipal and Sanitary Engineers in 1877, he says :—

" The geological character of any locality will often determine the probable purity or impurity of a well, and our " City is pre-eminently an example of this. In Clifton and " Kingsdown, we have thick and impervious beds, dipping to " the north-east, at an angle of 30° to 70°; in the Parish of " St. Paul, we have horizontal beds of porous triassic sands; " in St. Philip's we have alluvial beds of peat and gravel; " while in the outlying districts of Stapleton and Fishponds, " are thick layers of pennant rock, so broken up by innumer-" able fissures, that every well is full of surface water. Bristol " from the rapid dip of its fundamental strata, from an altitude " of 300 feet above, to 20 feet below the mean sea level, at an " angle of 30 to 50 degrees, may be considered unusually well " situated for drainage purposes, yet this very character is the " worst possible one for the purity of our well water. No " well, especially those in the low-lying parts of the City, is " free from liability to sewage contamination from the great " hydraulic and lateral pressure.

" The water-bearing strata may be divided into four kinds :

Geological Conditions influencing Water Supply.

"1.—Where the beds dip greatly, and are quite impervious to the passage of water except through "their joints and divisions.

"2.—Where the beds dip greatly; but are fissured in "all directions.

"3.—Where the beds are horizontal and impervious.

"4.—Where the beds are horizontal and pervious.

'As an example of the first condition, we may instance the "silicious beds of the millstone grit, that form the northern "boundary from Brandon Hill to Cotham. The water flows "*between* the strata, bringing with it, comparatively unchanged, "all that the water has dissolved from the surface of the "ground.

"On the west side of Brandon Hill are two copious springs "only separated from each other by a few feet of millstone "grit. Each of them is abundantly supplied by water from "Clifton and Durdham Down, and may at any time be "influenced by the extension of buildings, and any other "sources of contamination that impinge on the strike of the "beds between which the water flows."

Mr. Stoddart here gives an example of a well in King Square, polluted from premises on Kingsdown Parade, the pollution following the dip of the beds; and instances the well water in the former priory of St James, at one time good, before Kingsdown was built upon, but now much polluted by the sewage of these higher levels.

As to the water supply of Horfield and Bedminster, Mr. Stoddart goes on to say,—"The triassic beds of limestone are "nearly horizontal, and divided by stiff clays and schists, and "form a very doubtful medium for a good supply of potable "water. The only exit for rain that has fallen upon, and "dissolved plentifully the organic impurity, is between the "limestone rock and the clay parting.

Geological Conditions influencing Water Supply.

"The wells of the centre of Bristol and St. Paul's are on "strata both horizontal and porous. The centre of the City is "composed of beds of sand, gravel and peat, more than 200 ft. "in thickness, deposited upon the coal measures that reach the "Mendips. They are so much below the level of the sea, that "they are always subject to tidal infiltration bringing with "it whatever sewage it may meet.

"In the parish of St. Paul, the ground is composed entirely "of porous Keuper sands and marls, that rest upon the "Kingsdown millstone grit. They are so porous that, if they "are penetrated for making sewers, the whole of the wells in "the immediate vicinity are drained. Indeed, there are a "great many wells that are quite dry, from a few having "been sunk to a greater depth."

These statements of Mr Stoddart receive striking confirmation in times of flood, when percolation of the flood-water through the sub-soil pollutes many wells in districts far outside the area of surface flooding; and where this flood-water soaks, it may be readily understood that sewage or other filth may and does soak.

The laboratory constructed by your Committee for purposes of water analysis in the Health Office has continued to prove most serviceable, and a large number of samples of suspected water is now dealt with. When found polluted the wells are referred to the Analyst, and closed in the usual way. (See Inspector of Nuisances' Report).

Sewerage, Drainage, and Excrement Disposal.

The district is entirely drained by a system of sewers, which are constructed to take all storm water; all the street gullies are trapped, and the sewers are without any external openings or means of ventilation. They discharge at five points into the tidal Avon, and are so constructed with regard

Sewerage. to capacity, fall, and position, that they may ultimately converge to one point, at which the sewage may be discharged, or from which an outfall sewer may be continued to any suitable point further down the river, or to the Bristol Channel, if found to be necessary.

The Drains of all new houses, and of older houses where reconstruction becomes necessary, are required to be properly trapped off from the sewers, and these house drains are also required to be properly ventilated by, at least, two openings, so as to admit of the passage of a current of air. Also, all rain water pipes and bath, sink, or lavatory wastes are required to discharge into the open air over a properly trapped yard-gully which communicates with the drain. The necessity for the construction of proper manholes or inspection shafts over the main trap, and also at sharp bends or corners, is becoming year by year more appreciated, as the economy of this plan, in preventing costly and troublesome digging-out on the occasion of every slight stoppage, becomes apparent.

The erection of *New Houses,* together with their drainage, is entirely controlled in the Surveyor's department.

PART II.

Report of Inspector of Nuisances.

1890. Public Health Department,
40, Prince Street,
February, 1891

To The Bristol Urban Sanitary Committee,

Gentlemen,

Report of Inspector of Nuisances

I beg to submit the following Report of work done by the Inspectors in the Public Health Department during the year 1890, to which are appended tables showing the number and nature of the Nuisances abated, also a comparative table giving the totals for the past seven years, which will show how the work of the Office has increased in that time.

It will at once be seen from these tables that the past year was a very busy one, the total number of Nuisances abated through the action of the District Inspectors being 4,289 against 3,317 in the previous year, showing an increase of 972. The abatement of these Nuisances required 10,882 re-visits, to see the various works properly carried out.

Dirty and dilapidated houses closed.

During the year, 293 dirty or dilapidated houses were cleansed and repaired by the owner under notice, against 246 in the previous year, seven others have been entirely demolished and eight closed, and at present remain so, the owners preferring to adopt this course rather than carry out the requirements of the notices. Of those demolished, six were in Bedminster, and one in St. Philip's, and of those closed, two were in Clifton and six in the Bedminster districts.

Report of Inspector of Nuisances

Notification of Disease.

The Infectious Disease (Notification) Act has very considerably increased the work of this department, 860 cases having been notified and duly enquired into since the adoption of the Act in February last, an average of three visits to each case being required to see that they are properly isolated, &c., until ready for disinfection. In addition to these, 86 deaths from Infantile Diarrhœa were enquired into, and particulars of feeding, &c., obtained, and duly reported to the Medical Officer of Heath. Advantage is taken by the Inspector visiting these cases to examine the Sanitary arrangements of the houses in which they occur, and if found defective the usual steps are taken to get such defects remedied.

Disinfection.

During the year 558 houses have been disinfected, against 264 in 1889, whilst 20,523 articles of bedding and clothing have been removed and disinfected in the steam disinfector, without any complaints being received of the loss of, or damage to, a single article. 1,059 complaints and applications were received and enquired into, and all particulars relating thereto recorded in the complaint book, against 847 the previous year, many of these were of an unimportant nature, but all received the necessary attention.

The informal notices served for the abatement of nuisances have as usual been very successful, but in 181 cases it was necessary to serve formal notices, and 10 owners of 19 houses were summoned before the Justices for non-compliance with such notices, and in each case an order was obtained to enforce compliance therewith, with costs. Names and full particulars are appended.

The figures already quoted refer only to the work done by the District Inspectors.

Full details of work done by the Inspectors of bakehouses, common lodging houses, meat, fish, and slaughter houses, dairies, cow sheds, and milkshops, and houses let in lodgings; and by those engaged in house to house inspections are appended separately under each head. A reference to the report

Report of Inspector of Nuisances.

of house to house visits, instituted for the better control of houses in the poorer districts, shows that 63·4 per cent. of those so visited required attention to some one or other of the Sanitary arrangements, thus proving conclusively the necessity of continuing and possibly extending this branch of the department, which was only commenced at the end of last September.

House to house Inspection.

The main sewers were, as usual, disinfected with sulphate of iron during the Summer and Autumn months, and carbolic powder was distributed gratuitously in the poorer neighbourhoods.

Twenty-one additional water closets have been provided by the owners of several courts, under notice from this office.

Housing of the Working Classes Act, 1890.

In the early part of November, operations under the above Act were commenced, and from that time to the end of the year 32 houses were reported as being unfit for human habitation, and by orders from your Committee, necessary Notices were served on the owners, with the following result:—

Closed under Justices order - -	9
Closed by owner without order	4
Demolished altogether	8
Made habitable - - - -	1
Remaining to be dealt with - -	10
Total	32

The appended tables give full details of systematic inspection and work secured during the year.

I am, Gentlemen,

Your obedient servant,

JAMES W. KIRLEY,

Chief Inspector of Nuisances.

Summary of Nuisances abated and Work done by the District Inspectors, and by the Special Inspectors in the Health Department.

1890.

STATEMENT PREPARED BY THE CHIEF INSPECTOR OF NUISANCES.

Number of Complaints received and attended to	1059
Total number of visits and re-visits in order to secure completion of work in the various departments	31230
Total number of Nuisances abated in the various Departments	5600

Nuisances abated by the	District Inspectors	4289
	Inspector of Slaughter Houses	42
	„ Bakehouses	89
	„ Common Lodging Houses	15
	„ Milk Shops, &c.	370
	„ Houses let in Lodgings	514
	House to House Inspectors	281
		5600

PARTICULARS OF NUISANCES ABATED BY THE DISTRICT INSPECTORS.

House drains entirely relaid, trapped, and ventilated	323
House drains partially relaid, trapped, and ventilated	1013
W.C.'s fitted with new pans, &c.	1427
W.C.'s cleansed and amended	413
Dirty and dilapidated houses cleansed and repaired	293
Yards paved by owners	328
Offensive deposits removed	193

Cesspools abolished - - - -	10
Keeping of pigs and other animals prohibited -	81
Overcrowding—cases of - - -	27
Smoke nuisances - - - -	10
Other nuisances - - - -	171
	4289

Offensive Trades—

Number visited - - - -	47

Water Supply—

Polluted wells closed - - - -	35
Company's water-supply provided to houses -	68

Smoke—

Observations taken - - - -	93

Drain Testing—

Number of times smoke test applied - -	560

Disinfection—

Houses disinfected after infectious disease -	**558**
Articles of bedding, and clothing disinfected -	20523
Articles burnt - - - - -	27
Total number of infected articles dealt with -	**20550**

TABLE SHOWING NUMBER OF NUISANCES ABATED AND OTHER WORK DONE IN EACH YEAR SINCE 1884.

	1884	1885	1886	1887	1888	1889	1890
Number of Nuisances abated	1943	2167	2424	3101	3139	3672	5600
Polluted Wells closed	21	15	16	17	18	48	35
Houses supplied with Co.'s Water	27	35	27	29	36	113	68
Houses disinfected ...	131	132	215	541	403	264	558
Articles of bedding, &c., disinfected	3919	5580	7727	19563	23233	14462	20523

JAMES W. KIRLEY,

Chief Inspector of Nuisances.

Details of Systematic Inspection.

Inspection of Common Lodging Houses.

1890. *(Bye-Laws dated 1882, made under Public Health Act 1875.)*

Inspector—S. O. Dimond.

Common Lodging Houses.

Very few contraventions of the Bye-Laws have called for action during the year, and in general it may be said that increasing attention to the requirements of the regulations is being paid each year by the keepers of these houses.

Some of the houses that have been longest in use as Common Lodging Houses are very old, and indeed hardly fit for the purpose, so that it is difficult to keep them up to a reasonable standard, but by frequent supervision and by the constant securing of repairs they are kept fairly in order. Four houses have had general repairs done throughout during the year.

The business has been discontinued in two registered houses, thus removing accommodation for 32 persons ; but to counterbalance this, increased accommodation is being provided at other registered houses by alterations and extensions, and this additional accommodation will shortly be submitted for registration.

No complaints as to overcrowding were received during the year, and no overcrowding was found to exist at either day or night visits.

Absence of Infectious Disease.

For the Fifth Year in succession no infectious disease has been found or reported in any Common Lodging House, a fact of very great significance in regard to the value of constant supervision.

Summary—Common Lodging House inspection, and Work done during the Year.

1890.

No. of Houses on Register.	Registered Rooms contained.	Certified to Accommodate.
52	241	1,096

Notices given to secure Half-yearly Limewashing	93	Notices complied with	110
Notices served to secure observation of Bye-Laws	6		
Notices to require necessary Repairs to Drains and Premises ...	9		
Notices served to require Application to be made for Registration ...	2		
Total	110	Total	110

Visits, Inspecting as to fresh Applications, Measuring Rooms, serving Notices, affixing Room Tickets and copies of Bye-Laws, ordinary Inspections to secure Observance of Bye-Laws, and to superintend Repairs to Drains, &c., and making enquiries to see that Bye-Laws are complied with, and Night Visits 526

S. DIMOND,
Inspector.

Bakehouses.

(Factory and Workshops Acts, 1878 and 1883.)
41 Vic., c. 16, and 46 and 47 Vic., c. 53.
Systematic Inspection commenced in 1884.

Inspector—S. O. Dimond.

Bakehouses.

The systematic inspection of Bakehouses has been continued throughout the year, and good results have continued to follow. It will be noted in Table I. that only 35 contraventions of limewashing and cleansing regulations have had to be dealt with, as compared with 37 in 1889; whereas there has been the considerable increase of 47 defective drains found and remedied as compared with 19 in 1889. These defects represent a large amount of work now going forward in the replacement of old or insufficient drains by properly jointed and trapped stoneware pipe drains. Table II shows the total defects dealt with in successive years since 1884, when inspection was commenced, and it is satisfactory to be able to record the maintenance of a steady general improvement in the majority of premises used in this trade.

Table I.

Table of Bakehouse Inspection for the Year.

1890. With particulars of Condition, Contraventions, Action taken, and Result.

Total number of visits and inspections	...	1115
Number of visits to Bakehouses, at which they were found in good order	392	
Ditto ditto ditto in fair and passable order	484	
Ditto ditto ditto not in satisfactory condition from one or more of the undermentioned causes	89	
Number of visits made in connection with Notices given, and seeing to proper compliance with same	150	
280 Bakehouses were in operation.	1115	1115

Table I.—*Continued.* PARTICULARS OF DEFECTS.

Contraventions of lime-washing regulations, and want of proper cleansing	35	Informal Notices given for the removal of defects, and complied with ...	65
Bakehouse premises with defective drains found thereon	47	Formal Notices served, and complied with	22
Repairs of Floors or Roofs required ...	7	*Formal Notices now running ...	2
	89		89

January 1st, 1891.

*Since complied with.

S. O. DIMOND,
Inspector.

Table II.

Showing Defects found and remedied in each year since Bakehouse Inspection was instituted.

YEAR.	PARTICULARS.	TOTALS.
1884	Total contraventions in respect of cleansing, lime-washing, defective drains, repairs and defective ventilation	342
1885	Ditto	244
1886	Ditto	96
1887	Ditto	132
1888	Ditto	69
1889	Ditto	65
1890	Ditto	89

Inspection of Meat, Fish, and Slaughter Houses.

Slaughter House Bye-Laws, dated 5th December, 1851.

SPECIAL INSPECTOR FIRST APPOINTED JANUARY 7TH, 1884.

Inspector :—G. DENT.

Slaughter Houses.

The 93 Slaughter Houses on the register have been kept under constant inspection during the year, and the Fish Market and Retail Markets have been visited daily; considerable attention is also paid to the Railway Stations, in order to intercept any unsound consignments. As noticed in former Reports, several of the Slaughter Houses are ill suited to the purpose, and one or more Public Abattoirs would prove of real service.

P.H.A. Amendment Act.

The Public Health Acts Amendment Act of this year provides for the yearly licensing of Slaughter Houses, and for the withdrawal of the licence upon conviction of offences under the Act, thus putting useful powers in your Authority's hands.

Hotwells Cattle Lairs.

The Docks Cattle Lairs and Slaughter Houses at the Hotwells have been considerably improved, and another Slaughter House provided, with additional lairage, and cleansing rooms properly cement-floored and drained. 3,803 head of cattle have arrived and passed through these premises during the year.

INSPECTION OF MEAT AND FISH.

1890. Summary for the Year.

No. of visits paid to Slaughter Houses during the year	1686
„ „ Fish Markets	914
„ Wholesale Meat Markets, Union Street, Retail and other Markets	1044
, Meat and Fish Shops	1360
„ , Fish and Tripe Curing Premises	92
„ Cattle Market, Railway Stations, and Irish Boats	118
Total number of visits	5214

Cattle, Pigs, Meat, Fish, and Fruit Destroyed.

Beasts	30
Sheep	7
Pigs	20
Calves	5
Quarters of Beef—	
From Butchers' Premises	4
Packages of Meat (various)	66
„ Fish „	453
„ Vegetables	91
„ Fruit	112
Pots of Preserved Shrimps	96
No of Notices served during the year to abate nuisances, repair drains, provide proper tubs and vessels, &c., on failure of verbal Notice; all complied with	42

GEORGE DENT,

Inspector of Meat and Fish.

Regulation of Houses Let in Lodgings, or occupied by Members of more than one Family.

Model Bye-Laws, adopted April 12th 1889.

SPECIAL INSPECTORS APPOINTED SEPTEMBER, 1889.

THOMAS LOWTHER, *Superintendent Inspector.*

W. H. PERRY, *Inspector of Houses Let in Lodgings.*

J. T. LYONS, *Assistant Inspector of Houses Let in Lodgings.*

Adoption of Bye-Laws.

The adoption of these Bye-Laws in 1889, and the subsequent appointment of special Inspectors for their due enforcement, has added a very useful measure of sanitary control to those already existing in the City.

The provisions of these Bye-Laws were summarised at some length in my Report for 1889—and they, in effect, extend similar salutary provisions as to cubic space, ventilation, cleanliness, and general sanitary condition to this class of house of below a £20 rental occupied by members of more than one family, as were previously in force in regard to Common Lodging Houses.

The good result of this supervision in the case of Common Lodging Houses had, for some time, seemed to point to the desirability of extending a similar control to Houses Let in Lodgings in the poorer districts, and the subjoined summary will show what amount of useful work has been thereby secured. Action in the matter is selective, and only those houses which seem to be so badly kept as to call for constant supervision, are called upon to be registered.

Usefulness of Bye-Laws.

As a measure calculated to greatly improve the Housing of the Working Classes in the City, these Bye-Laws appear to be of very great value, and no trouble of any kind is experienced in carrying out their requirements.

1890. Summary of Work done during the Year.

	Houses Registered.	Courts or other Houses visited but not Registered.	TOTAL.	No. of Revisits to inspect Work.	Total No. of Houses on Register.
No. of Houses visited, including Houses Let in Lodgings, Courts, &c. ...	98	422	520	3833	155

Particulars of 98 Houses Registered during Year.

Total No. of rooms ...	706	Average number to a sleeping room ...	2	Houses without Co.'s water ... 2
Do. inmates	997	Average number to one privy	10	
Do. w.c.'s ...	99			

Summary of Work done.

	Left on Books to Dec. 31st, 1889.	Notices served to Dec. 31st, 1890.	TOTAL.	Complied with.	Now in hand.
Verbal requests and Notices served for the abatement of Nuisances	11	359	370	318	52

Nature of Nuisances found.	No. found.	Work secured to abate Nuisances.	No. abated	Now in hand.	Not started.
Defective roofs, shuting, &c.	43	Repaired, &c. ...	40	3	0
Dirty and dilapidated staircases	114	Cleansed, coloured and repaired	109	4	1
Do. do. rooms	532	Do. do. do.	492	17	23
Foul and defective w.c.'s ...	326	Stoneware basins and traps fixed ...	262	23	15
		Do. flushed with Co.'s water	14	0	0
		Closets repaired ...	12	0	0
Defective drains ...	227	New drains relaid or repaired	194	21	12
Do. surface and others sinks	380	Stoneware traps fixed and sinks disconnected ...	366	11	3
Do. yard paving ...	111	Relaid or repaired ...	109	1	1
Offensive deposits ...	8	Removed	8	...	...
Do. Cesspools ...	...	... ...	...	...	...
Keeping animals ...	3	Removed	3	...	...
Polluted Wells ...	1	Company's Water laid on	1	...	...
Houses with Infectious diseases ...	2	Houses cleansed and disinfected	2	..	..
Overcrowding ...	7	Abated	7	...	..

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Dairies, Cowsheds, and Milkshops.

Contagious Diseases (Animals) Act, 1878 *to* 1886, *Dairies, Cowsheds, and Milkshops Order,* 1885; *Dairies, Cowsheds, and Milkshops Amendment Order,* 1886.

REGULATIONS MADE UNDER THE ABOVE POWERS, 9TH DECEMBER, 1890.

SPECIAL INSPECTOR OF DAIRIES, COWSHEDS, AND MILKSHOPS, FIRST APPOINTED 19TH AUGUST, 1889.

1890. *Inspector*—E. J. CASELY.

Dairies. Defects found.

Dairies—Of the 90 Dairies inspected during the year, 22, or about a quarter, were found to be in a very unsatisfactory condition. A large amount of the work done has consisted in rectifying ordinary drain defects and securing cleansing; but one or two instances of grossly insanitary conditions came under notice; thus, adjoining one Dairy a cesspool was found, from which 32 cart loads of soil were removed; and in another case the drains had leaked under the floor of the room to the extent of filling up the under-space with filth; in a third case the drain was found to have been cut off from the sewer, and allowed to discharge into a disused rain-water cistern. 14 new Dairies have been built outside the dwelling-house for the reception of milk previously improperly stored in living rooms, but three keepers of Dairies have decided to discontinue the sale of milk rather than comply with the necessary requirements.

Cowsheds.—Of the 35 Cowsheds inspected, 19, or rather more than half, were found to be in bad condition—overcrowding of cattle, bad paving, defective drainage, and bad ventilation constituted the bulk of the defects found, and in a few instances swine were allowed in the Cowsheds, and many sheds were very dirtily kept.

Cowsheds. Defects found.

Milkshops.—Of the 455 Milkshops inspected, 135, or considerably more than one-quarter, were found to be in an unsatisfactory condition, and in a large number of cases milk was stored and sold in most unsuitable shops, where also vegetables, or marine stores, coal briquettes, fish, or paraffin, shared a common counter. In one case a tailor's shop was used for the sale of milk; in another, a room used by two children as a living and sleeping room with fowls for company; in a third case a small kitchen used as a wash-house, into which sewer gas from defective drains was freely escaping, formed the storehouse for the milk; and upon opening up the drains it was found they were carried, untrapped, into a disused well. Of the 455 Milkshops, the owners of 100 have decided to discontinue the sale of milk, as they are unable or unwilling to comply with the statutory requirements.

Milkshops. Defects found.

All the defects found in Dairies, Cowsheds, and Milkshops, have been effectually remedied, or are in hand; and considerable attention has been paid to the securing of cleansing and limewashing.

Work secured.

Dairies, Cowsheds, and Milkshops.

1890. SUMMARY FOR THE YEAR.

Total number of Dairies, Cowsheds, and Milkshops on Register at end of last year -	388
,, number registered during this year -	436
,, ,, now registered - - -	**824**
,, ,, of inspections made - -	580
,, revisits - - - - -	642
,, Notices served, written - - -	190
,, ,, given verbal - - -	180
,, ,, complied with - - -	370

A.—Particulars of Inspections—

	Dairies.	Cowsheds.	Milkshops.
Total No. inspected ...	90	35	455
Found in good condition ...	30	8	123
,, fair condition ...	38	15	197
,, bad condition ...	22	12	135
Impure water supply ...	3	3	5
W.C.'s, sinks, or drains, defective	45	14	220
W.C.'s communicating with premises	0	0	4
Cesspools	1	0	8
Yards badly paved, yard gratings defective... ...	13	7	163
Dairy or milkshop used for purposes incompatible with proper preservation of the milk	2	0	92
Dirty milk vessels	0	0	42
Infectious disease amongst employés or on premises ...	0	0	12
Swine on premises	4	4	7
Cowsheds with defective lighting, cleansing, ventilation, or air space	9	16	0
Cowsheds with diseased cattle	0	0	0

1890. B.—Particulars of Work secured.

Dairies, Cowsheds, and Milkshops—

New drains laid entirely - - -	72
Drains partly relaid - - -	83
New W.C. pans and traps fixed - -	116
W.C.'s ventilated and provided with flushing apparatus - - - -	21
W.C.'s cleansed - - - -	41
Sinks trapped - - - -	137
Yard gratings trapped - - -	138
Yards paved - - - -	55
Yards and kitchens limewashed - -	45
Cesspools abolished and drainage provided -	7
Pigs removed - - - -	13
Cowsheds cleansed, limewashed, drained, and ventilated - - - -	10
Stables at milkshops drained and ventilated	15
Company's water laid on at milkshops -	12
Polluted wells closed at ditto - -	4
Milkshops and dairies cleansed, limewashed, &c. - - - - -	39
New dairies built outside dwelling-houses -	14
Number of persons discontinued sale of milk, (milk kept in paraffin stores, marine stores, in living room, &c.) - -	100
Smoke test applied to drains - -	30
Leaky roofs repaired - - -	6
Disinfection carried out - - -	10

Details of House to House Inspections, in connection with the better control of Houses of the Working Classes.

(Commenced at end of September, 1890.)

1890.

Inspectors— H. J. Kirley, *Assis. District Inspector.*
J. F. Cotty, „ „ „

Total No. of Houses inspected	**575**
No. of Houses found in good repair	150
Ditto ditto fair ditto	364
Ditto ditto bad ditto	61
No. of Houses with good Sanitary arrangements	60
Ditto fair ditto	175
Ditto bad ditto	340

		Complied with.	Now in hand or running.
No of verbal requests and Written Notices served to abate Nuisances	365	281	84

SUMMARY OF WORK COMPLETED.

Drains relaid	14
Ditto partially relaid	97
W.C.'s fitted with new pans and traps	204
Ditto cleansed and amended	18
Surface gratings trapped and sinks disconnected	211
Back yards paved	33
Roofs and rain water shuting repaired	24
Dirty and dilapidated houses cleansed and repaired	18
No. of revisits to inspect work in hand	1277

This work has only been in hand since September, 1890, when two Assistant District Inspectors were appointed for this particular purpose. It is the intention of your Committee to appoint two more assistant Inspectors to make more complete the supervision over every part of the City, and the good results already secured would appear to justify such further appointments.

Particulars of Cases taken before the Justices during the Year.

1890.

DATE.	NAME.	OFFENCE.	RESULT.
Feb. 7th	W. Coombs	Nuisance from dilapidated and insanitary house at 18, New St.	Ordered to comply with the terms of the Notice within 14 days and to pay the costs
Feb. 21st	W. Coombs	Two Cottages at the back of No. 12, Great Ann St., unfit for human habitation	Ordered to close the cottages and to pay the costs
,,	G. Wills	Nuisance from dilapidated houses and defective W.C.s and drains, at 8 & 10, Great Ann St.	Ordered to abate the Nuisances and pay the costs
,,	R. T. P. Lucas	Nuisance from defective W.C., sinks, and drain, at 27, Penfield St.	Ditto
May 14th	J. Hemmings	Nuisance from defective W.C.s, sinks, and drains, and general dilapidations, at Nos. 4, 5, & 7, Ashley Parade	Ditto
,,	G. Williams	Nuisance from defective W.C., sink, and drain, at No. 7, Harford St., St. James	Ditto
June 18th	P. J. Lloyd	Nuisance from house unfit for human habitation, 26, High St.	Ordered to close the house until rendered habitable, and to pay the costs
,,	E. S. Grigg	Nuisance from defective W.C., sink, and drain, at 1, Elton St.	Ordered to abate the Nuisance and to pay the costs
Sep. 12th	W. H. Cowlin	Nuisance from defective W.C., sink, and drain, at 62, Castle St.	Ditto
Nov. 21st	C. B. Luxton	Nuisance from defective W.C.'s, sinks, and drains, at Nos. 11, 12, & 13, Leigh St.	Ditto
,,	G. Williams	Exposing himself in the public street while suffering from Scarlet Fever.	Fined £1 and costs
Dec. 1st	G. May & T. Serle (joint owners.)	Two houses unfit for human habitation, at West St., Bedminster	Ordered to close the houses until rendered habitable, and to pay the costs

1890.

Baths and Wash Houses.

The three establishments at

The Weir,
The Mayor's Paddock, New Cut,
Jacob's Wells,

return the following figures as the year's work :—

	No of Bathers, Swimming Baths.	Private Baths.	Women Washing Clothes.
The Weir	14,004	42,802	31,795
The Mayor's Paddock, New Cut.	12,885	25,116	22,779
Jacob's Wells (Baths only).	30,102	17,665	...

The City Analyst, Mr. F. Wallis Stoddart, has kindly supplied the following returns :—

"FOOD AND DRUGS ACT."

Summary of Returns for 1890.

Articles.	Analysed.	Condemned.
Milk - - - -	201	23
Pepper - - -	30	3
Bread - - - -	15	...
Butter - - -	31	...
Mustard - - -	14	3
Lard - -	9	...
Chicory - - -	2	...
Tea - - - -	1	...
Margarine - - -	17	...
Honey - - -	2	...
Seasoning - - -	1	Consisting of Rice with a little pepper
Total -	323	29

F. WALLIS STODDART,
Public Analyst.

PART III.

VITAL AND MORTAL STATISTICS.

The estimated population of the Bristol Urban Sanitary District, for the middle of 1890, is 232,248, the Acreage is 4,538 (Ordnance Calculation), with a mean density of 51·1 persons per acre.

Acreage and Density.

This table shows the acreage and number of persons per acre for each of the Sub-Registration Districts. The density of the population is somewhat understated in certain districts, as large portions of the outlying parts are as yet unbuilt on; this applies more especially to Bedminster and St. Philip's.

Table A. Showing Population, Acreage, and Number of Persons per Acre (Density) in each of the Sub-Registration Districts of the Bristol Urban Sanitary District, at the Census of 1881, and for the middle of 1890.

Sub-Registration Districts.	Acreage.	Population.			
		Census, 1881.	1881, Density.	Estimated to middle of 1890.	1890, Density.
St. Mary Redcliff ...	170	9,602	56·4	7,967	46·8
Castle Precincts .	119	6,768	56·8	5,135	43·1
St. Paul	148	18,643	125·9	20,220	136·7
St. James	68	8,420	123·8	7,315	107·5
St. Augustine ..	250	14,066	56·2	13,019	52·6
Bedminster	992	37,741	38·0	47,690	48·7
Clifton	921	28,702	31·1	31,039	33·7
Ashley	434	19,106	44·0	25,093	57·8
St. Philip	744	50,108	67·3	56,558	76·0
Westbury	692	13,347	19·2	18,182	26·2
Bristol Urban Sanitary District } Total	4,538*	206,503	45·5	232,248	51·1

* Ordnance Calculation.

BIRTHS.

The births registered in Bristol in 1890 were 6,634, of which 227 were illegitimate.

Birth Rate

The Birth rate for the year, 28·11 is lower (with the exception of 1888) than at any time during the last 13 years; the rate for the 28 large towns was 30·0.

The excess of births over deaths during the year 1890 (*natural increase of population*) was 2,102. The *estimated actual increase is* 2,923. The estimated population of the District is possibly overstated, but this will be duly corrected by the census enumeration of 1891.

MARRIAGES.

Marriage Rate.

2,778 Marriages took place within the Borough of Bristol during 1890, viz., 1,033 in the Bristol Union, 1,256 in the Barton Regis Union, and 489 in the Bedminster Union divisions of the Borough. The annual rate per thousand living is thus 11·9, compared with 11·4, the rate of last year.

DEATHS.

Death Rate.

4,532 Deaths were registered in the District during the 53 weeks ending 3rd January, 1891, of which 80, or less than two per cent., were returned as deaths of illegitimate children. The general death rate for the year, uncorrected for age and sex distribution*, is 19·20 per 1,000 living.

MORTALITY AT DIFFERENT AGES.

Infant Mortality.

Of the 4,532 deaths 991 were of infants under one year The proportion of these deaths to every 1,000 births (Infant death rate), was 149·4.

This rate varied thus:—173·3 in Redcliff, 164·4 in St. Philip, 162·7 in St. Paul, 160·0 in Castle Precincts, 154·3 in St. Augustine, 144·2 in Bedminster, 117·0 in Clifton, 116·0 in Westbury, 115·9 in Ashley, and 113·3 in St. James.

Infant Mortality in Large Towns.

In Table **B** will be seen the annual infant rates in Bristol for the past 14 years. During 1890, the infant mortality ranged in the 28 large towns from 241 in Preston, and 199 in Salford, to 159 in Nottingham, 157 in Derby, 150 in Bristol, and 135 in Portsmouth.

MORTALITY AMONGST AGED PEOPLE.

1,265 Deaths of persons aged 60 and upwards were registered, whose ages averaged 72 years and 9 months. The number is somewhat more than last year, and the average age at death is one year higher.

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*Note.—The Registrar-General gives 1·0351 as the factor for correction. To obtain the corrected death rate, the recorded death rate is multiplied by this factor. The corrected rate is thus seen to be 19·8.

COMPARATIVE MORTALITY AMONGST THE GREAT TOWNS.

(*Registrar General's Returns.*)

The average annual mortality of the 28 great towns, having an aggregate population of 9,715,559 amounted during the year 1890 to 21·3.

Of the 11 largest towns—those having a population exceeding 200,000, the lowest general death rates occurred in Nottingham, Brighton, Leicester, Bristol, Hull, Birkenhead, and Portsmouth; and the lowest zymotic rates in Huddersfield, Halifax, Nottingham, Portsmouth, Wolverhampton, and Hull.

The infantile rate (deaths under one year to 1,000 births) ranged, in the 11 largest towns, from 135 in Portsmouth, and 151* in Bristol, to 199 in Salford, and 241 in Preston.

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*The Registrar General's estimate of the Infantile Mortality, which is given in round numbers, slightly exceeds that in the local returns.

COMPARATIVE TABLE—Showing the Estimated Population, Density, Birth-rate, Death-rate, Zymotic-rate, and Infantile Death-rate of the ELEVEN LARGEST TOWNS OF ENGLAND AND WALES (those having a Population of over 200,000); also of EDINBURGH, GLASGOW, and DUBLIN, for the Year, 1890.

From the Registrar General's Return.

	Estimated Population, 1890.	Persons to an Acre.	Birth-rate.	Death-rate.	Zymotic-rate.	Deaths under 1 Year to 1000 Births.
28 Towns ...	9,715,559	38·6	30·1	21·3	2·73	172
London ...	4,421,661	59·2	29·1	20.3	2·73	163
Liverpool ...	613,463	117·7	28·8	23·6	3·51	195
Birmingham	461,865	55·0	30·1	20·7	2·78	183
Manchester ...	379,437	64·0	34·9	30·6	4·01	187
Leeds ...	363,799	16·9	33·4	22·6	2·39	172
Sheffield ...	332,837	16·9	32·2	24·9	3·43	195
Nottingham ...	244,909	24·6	24·9	16·5	1·58	159
Salford ...	242,509	46·9	28.8	22·4	3·84	199
Bradford ...	240,515	22·3	25·6	20·4	2·27	169
Bristol ...	**232,248**	**50·1**	**28·1**	**19·2**	**2·04**	**151**
Hull ...	213,833	27·0	31·3	19·2	1·84	160
Edinburgh ...	271,135	45·9	26·3	20·0	3·01	144
Glasgow ...	530,208	86·8	36·3	25·2	3·67	149
Dublin ...	353,082	14·3	26·9	26·3	2·02	163

TABLE B. Showing Population, Births, Marriages, and Deaths, and Birth and Death Rates, in Bristol, for the 14 Years, 1877—1890.

	Estimated Population.	Registered Births.	* Marriages in the District of the Bristol Union.	DEATHS.					ANNUAL RATES.			
				Total Deaths at all Ages.	Under 1 Year.	Over 1 and under 5.	Over 60	In Public Institutions.	Birth rate per 1000.	Death rate per 1000.	Infantile Mortality to 1000. Births.	Zymotic Rate.
1877	202,950	7,295	1,199	4,415	1,120	785	990	653	35·9	21·8	153·5	3·3
1878	206,419	7,236	1,159	4,409	1,145	605	1,121	631	35·1	21·4	158·2	2·0
1879	209,947	7,644	1,115	4,496	1,112	715	1,163	607	36·4	21·4	145·4	2·2
1880	213,563	7,193	1,195	4,276	1,040	759	1,036	661	33·7	20·0	144·5	3·0
1881	Census 206,503	7,121	1,103	4,050	900	608	1,084	650	34·4	19·6	126·3	2·2
1882	210,134	6,935	1,107	4,019	988	589	1,045	624	33·0	19·1	142·0	2·3
1883	212,779	6,844	1,073	3,795	917	405	1,057	608	32·2	17·8	133·9	1·1
1884	215,457	6,888	1,090	4,023	1,001	538	1,061	653	32·0	18·7	145·3	1·8
1885	218,169	6,786	974	4,281	1,052	639	1,134	629	31·1	19·6	155·0	2·2
1886	220,915	6,724	949	4,253	1,002	619	1,132	694	30·4	19·3	149·1	2·2
1887	223,695	6,619	956	4,542	996	796	1,244	680	29·5	20·3	150·4	2·9
1888	226,510	6,608	981	3,816	824	432	1,138	710	29·1	16·8	124·6	1·2
1889	229,361	6,694	932	4,021	976	595	1,062	660	29·1	17·5	145·8	2·1
1890.	**232,248**	**6,634**	**1,033**	**4,532**	**991**	**597**	**1,265**	**730**	**28·1**	**19·2**	**149·4**	**1·7**

* This includes the Sub-Registration Districts of St. Mary Redcliff, Castle Precincts, St. Paul, St. James, and St. Augustine only.

TABLE

showing Deaths registered from all causes during the year 1890.

			1		5 to 15		15 to 25		25 to 35		35 to 45		45 to 55		55 to 65		65 to 75		75 to 85		85 and upwards.		Total All Ages.		Grand Total All Ages.
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
I.—Specific Febrile, or Zymotic Diseases	101	90	121	128	27	15	8	13	4	11	8	13	6	4	8	5	3	11	2	5	1	1	289	296	585
II.—Parasitic Diseases	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	1	...	1
III.—Dietic Diseases	...	..	...	..	...	...	...	...	1	...	1	...	...	...	...	2	1	...	..	..	...	...	3	2	5
IV.—Constitutional Diseases	44	22	35	27	27	33	60	49	53	52	54	58	61	47	35	47	26	43	4	13	2	3	401	394	795
V.—Developmental Diseases	55	53	..	...	...	...	...	...	...	...	...	...	...	...	5	3	37	20	50	85	21	48	168	209	379
VI.—Local Diseases	235	173	125	119	48	40	29	44	50	59	93	105	111	119	166	173	168	220	71	117	16	30	1112	1199	2311
VII.—Deaths from Violence	3	2	5	7	25	7	7	2	9	2	18	4	13	3	12	3	4	6	3	4	...	2	99	42	141
VIII.—Deaths from Ill-defined and not Specified Causes	108	105	13	16	3	3	1	9	2	3	7	4	4	9	8	6	4	5	4	2	1	...	155	162	317
	546	445	300	297	130	98	105	117	119	127	181	184	195	181	234	239	243	305	134	226	41	84	2228	2304	4532

I.—SPECIFIC FEBRILE, OR ZYMOTIC DISEASES.	0 to 1		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 55		55 to 65		65 to 75		75 to 85		85 and upwards.		Total All Ages.		Grand Total All Ages.
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
1.—Miasmatic Diseases.																									
Small Pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	4	5	43	38	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	49	43	92
Scarlet Fever	1	4	5	12	11	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	17	23	40
Typhus	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Whooping Cough	43	36	55	64	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	100	101	201
Diphtheria, Membranous Croup	...	...	7	7	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	7	16
Simple, Continued, or Ill-defined Fever	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	3	...	3
Enteric Fever	...	1	1	1	5	5	7	4	2	...	2	2	1	...	...	...	...	2	...	...	...	...	18	15	33
Other Miasmatic Diseases	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Influenza	...	...	2	3	...	...	1	5	...	3	6	4	3	3	5	4	1	7	...	5	1	1	19	35	54
2.—Diarrhœal Diseases.																									
Simple Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhœa Dysentery	41	34	8	3	3	2	...	1	...	...	...	...	1	...	2	...	...	...	1	...	...	...	56	40	96
3.—Malarial Diseases.																									
Remittent Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ague	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4.—Zoogenous Diseases.																									
Cowpox and effects of Vaccination	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hydrophobia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Glanders	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Splenic Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5.—Venereal Diseases.																									
Syphilis	9	9	...	...	...	...	...	...	1	1	...	2	...	...	...	...	...	1	...	...	...	...	10	13	23
Gonorrhœa, Stricture of Urethra	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1
6.—Septic Diseases.																									
Erysipelas	2	1	...	...	...	...	...	...	...	...	...	2	...	1	1	...	1	...	1	...	...	...	5	4	9
Pyæmia, Septicæmia	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	1	...	...	...	...	1	3	4
Puerperal Fever	...	...	...	...	...	...	...	3	...	7	...	2	...	...	...	...	...	...	...	...	...	...	...	12	12

	0 to 1		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 55		55 to 65		65 to 75		75 to 85		85 and upwards.		Total All Ages.		Grand Total All Ages
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
II.—PARASITIC DISEASES																									
Thrush and other Vegetable Parasitic Diseases	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...
Worms, Hydatids, and other Animal Parasitic Diseases	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
III.—DIETIC DISEASES.																									
Want of Breast Milk, Starvation	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	..	...	...	..	...	...	...	...	...
Scurvy	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	.	..	...	..	...	...	..	...	...
Chronic Alcoholism	...	..	...	...	...	...	..	...	...	..	1	...	...	...	..	1	...	...	...	...	...	...	1	1	2
Delirium Tremens	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	1	...	...	...	...	...	2	1	3
IV.—CONSTITUTIONAL DISEASES.																									
Rheumatic Fever	...	...	..	...	...	3	...	...	..	...	2	...	...	...	1	...	...	...	...	..	..	...	3	3	6
Rheumatism	...	...	..	2	...	...	2	...	1	...	3	2	2	2	2	2	2	3	1	...	...	...	13	11	24
Gout	...	...	...	...	...	...	...	...	...	...	..	...	2	...	1	...	2	...	1	..	...	...	6	...	6
Rickets	1	1	3	3	...	...	...	...	...	...	...	...	...	..	..	...	..	...	...	...	...	...	4	4	8
Cancer, Malignant Disease	...	1	:..	..	1	...	1	2	4	3	4	15	9	18	17	32	16	25	2	10	2	2	56	108	164
Tabes Mesenterica	15	7	6	3	1	1	1	...	..	...	...	...	...	...	...	...	..	...	...	...	...	...	23	11	34
Tubercular Meningitis, Hydrocephalus ...	11	4	16	8	8	5	1	...	...	...	...	...	...	..	...	..	...	...	...	...	...	...	36	17	53
Phthisis	8	4	5	6	11	14	47	41	42	47	41	39	46	26	12	11	6	8	...	1	...	1	218	198	416
Other forms of Tuberculosis, Scrofula ..	8	5	4	4	5	8	6	5	3	1	4	1	2	..	1	1	...	1	...	...	...	...	33	26	59
Purpura, Hæmorrhagic Diathesis	1	...	...	...	...	...	..	...	...	...	...	...	...	...	...	..	...	...	..	...	...	..	1	...	1
Anæmia, Chlorosis, Leucocythæmia ...	...	...	1	1	1	1	1	1	1	...	...	...	..	1	...	...	...	2	..	1	..	...	4	7	11
Glycosuria, Diabetes Mellitus	...	..	...	..	.	...	...	...	2	1	...	1	...	...	1	1	...	4	...	1	...	...	3	8	11
Other Constitutional Diseases	...	...	...	...	...	1	1	...	...	.	...	...	..	...	...	...	...	..	...	...	...	...	1	1	2

	0 to 1		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 55		55 to 65		65 to 75		75 to 85		85 and upwards.		Total All Ages.		Grand Total All Ages.
V. DEVELOPMENTAL DISEASES.	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Premature Birth	53	51	...	...	..	...	...	...	...	..	...	...	..	...	..	...	...	...	...	...	...	...	53	51	104
Atelectasis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	..	...	...	...	...	...	...
Congenital Malformations	2	2	...	...	...	...	...	...	...	..	..	...	...	..	...	...	...	...	..	...	..	...	2	2	4
Old Age	...	...	...	...	...	...	...	...	...	...	...	..	..	..	5	3	37	20	50	85	21	48	103	156	259
VI.—LOCAL DISEASES.																									
1.—Disease of Nervous System.																									
Inflammation of Brain and Membranes ...	8	11	13	9	8	3	1	1	...	2	1	...	...	2	2	...	...	1	...	...	...	...	33	29	62
Apoplexy, Softening of Brain, Hemiplegia, Brain Paralysis	1	1	...	1	2	5	...	1	4	4	19	12	15	25	27	27	34	42	11	29	2	8	115	155	270
Insanity, General Paralysis of Insane ...	...	...	...	...	...	...	...	...	4	1	1	...	3	2	2	...	...	2	...	...	...	...	10	5	15
Epilepsy	...	...	1	...	1	1	3	3	2	5	10	...	1	...	...	1	2	1	...	1	...	...	20	12	32
Convulsions	73	52	13	15	1	...	...	...	...	...	...	...	...	...	..	...	..	...	...	...	.	...	87	67	154
Laryngismus Stridulus (Spasm of Glottis)	...	2	..	1	...	...	...	...	...	...	..	...	..	...	...	...	...	...	...	...	..	..	...	3	3
Disease of Spinal Cord, Paraplegia, Paralysis Agitans	1	...	...	...	3	2	...	...	1	1	...	3	1	1	2	3	1	1	...	1	1	1	9	13	22
Other Diseases of Nervous System ...	...	...	...	..	3	...	...	1	...	...	...	1	2	1	2	3	2	...	...	...	..	...	9	6	15
2.—Diseases of Organs of Special Sense.																									
Ear, Eye, or Nose	...	...	...	1	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	1	1
3.—Diseases of Circulatory System.																									
Pericarditis	...	...	...	..	...	1	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	1	2	3
Endocarditis, Valvular Disease of Heart...	...	2	1	2	12	10	7	11	13	9	17	25	24	25	35	48	44	60	14	22	2	7	16	221	390
Aneurism	...	. .	...	...	. .	...	.	...	...	...	1	1	1	...	...	...	...	1	...	...	...	...	2	2	4
Senile Gangrene	...	...	...	...	...	...	...	...	...	...	...	...	1	...	..	1	3	7	1	1	...	1	5	10	15
Embolism, Thrombosis	...	...	...	...	...	...	...	...	..	...	..	1	..	...	...	...	1	...	..	...	...	...	1	1	2
Other Diseases of Heart and Blood Vessels	3	1	...	...	1	1	1	1	2	...	2	2	2	2	3	2	4	4	3	2	1	..	22	15	37

	0 to 1		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 55		55 to 65		65 to 75		75 to 85		85 and upwards.		Total all Ages.		Grand Total All Ages.
VI.—LOCAL DISEASES—*continued.*	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
4.—DISEASE OF RESPIRATORY SYSTEM.																									
Laryngitis	1	..	...	1	1	...	..	1	...	1	...	...	...	...	...	...	...	1	...	..	...	..	2	4	6
Croup	..	...	...	1	1	...	..	...	...	..	...	...	...	...	...	..	...	...	...	...	...	...	1	1	
Emphysema, Asthma	...	...	1	...	...	..	...	1	...	...	2	1	2	...	2	2	...	3	..	...	..	...	7	7	14
Bronchitis	83	68	45	43	1	2	2	...	...	3	4	13	28	20	50	46	34	61	25	39	7	8	279	303	582
Pneumonia	24	12	38	32	7	4	6	7	12	12	12	10	13	10	18	16	15	10	3	5	2	...	150	118	268
Pleurisy, Hydrothorax	...	...	...	...	1	..	...	1	...	...	...	..	...	2	...	...	...	...	1	...	...	...	2	3	5
Other Diseases of Respiratory System	2	2	1	1	3	..	...	1	...	1	2	...	1	1	...	...	4	2	3	...	...	...	16	8	24
5.—DISEASE OF DIGESTIVE SYSTEM.																									
Dentition	13	8	12	9	...		...	..	...	...	...	..	...	...	...	...	..	. .	...	...	...	..	25	17	42
Sore Throat, Quinsy	...	...	..	...	...	...	..	...	...	..	..	...	...	..	...	...	...	...	...	...	...	...	...	...	...
Diseases of Stomach	5	1	...	1	...	...	1	2	...	1	2	2	...	3	3	1	1	2	1	2	...	...	13	15	28
Enteritis	3	4	...	...	...	2	..	...	1	1	...	2	...	1	..	2	2	...	...	2	...	...	6	14	20
Obstructive Disease of Intestine ...	4	...	...	...	...	1	...	...	...	...	1	2	...	2	1	2	3	1	2	3	...	1	11	12	23
Peritonitis	1	1	...	1	...	3	2	3	...	1	1	2	1	2	...	1	1	1	...	...	.	...	6	15	21
Ascites	...	...	...	. .	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	. .
Cirrhosis of Liver	...	...	...	...	...	...	...	...	...	2	3	2	3	5	4	1	1	1	...	1	...	...	11	12	23
Jaundice and other Diseases of Liver ...	2	...	...	...	...	...	...	...	3	...	3	2	1	2	2	3	1	2	2	1	...	...	14	10	24
Other Diseases of Digestive System ...	4	6	...	...	...	3	2	3	1	4	1	4	1	3	2	2	3	5	1	1	...	2	15	33	48
6.—DISEASES OF LYMPHATIC SYSTEM.—																									
Lymphatics, and of Spleen	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	..	...	...	...	...	...	...
7.—DISEASES OF GLANDLIKE ORGANS OF UNCERTAIN USE.—																									
Bronchocele, Addison's Disease ...	...	..	...	..	...	...	...	...	...	...	...	...	...	...	...	...	..	1	...	...	..	...	...	1	1
8.—DISEASES OF URINARY SYSTEM.—																									
Nephritis	...	...	...	1	2	1	2	...	2	1	2	4	4	1	4	2	2	2	...	4	...	...	18	16	34
Bright's Disease, Albuminuria ...	...	...	...	...	...	..	1	1	3	1	5	...	3	4	3	5	3	8	..	1	...	...	18	20	38
Diseases of Bladder or of Prostate ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	3	1	1	1	...	...	5	3	8
Uræmia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	1
Other Diseases of Urinary System ...	1	...	...	...	...	...	...	...	2	2	3	1	2	1	2	1	4	...	2	1	1	...	17	6	23

	0 to 1		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 55		55 to 65		65 to 75		75 to 85		85 and upwards.		Total All Ages.		Grand Total All Ages.
VI.—LOCAL DISEASES—*continued.*	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
9.—Diseases of Reproductive System.																									
A.—Organs of Generation.																									
Male Organs	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Female Organs	...	...	...	...	...	...	...	...	...	3	...	2	...	3	...	2	...	...	...	...	...	1	...	11	11
B.—Of Parturition.																									
Abortion, Miscarriage	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	1
Puerperal Convulsions	...	...	...	...	...	...	...	2	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	3	3
Puerperal Mania	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Placenta Prævia, Flooding ..	...	...	...	...	...	...	...	...	...	2	...	6	...	...	...	...	...	...	...	...	...	...	...	8	8
Other Accidents of Childbirth ...	...	...	...	...	...	...	...	3	...	2	...	4	...	...	...	...	...	...	...	...	...	...	...	9	9
10.—Diseases of Bones and Joints.																									
Caries, Necrosis	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	1	2
Arthritis, Ostitis, Periostitis	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	1	2
Other Diseases of Bones and Joints ...	1	...	...	...	1	1	...	...	...	...	1	...	...	...	2	...	...	...	...	...	...	...	3	1	4
11.—Diseases of Connective Tissue.																									
Inflammation, Cellulitis	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1
Non-malignant New Growth, Elephantiasis	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	1
12.—Diseases of Integumentary System.																									
Carbuncle, Phlegmon	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases of Integumentary System	4	2	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	5	3	8
VII.—DEATHS FROM VIOLENCE.																									
1.—Accident or Negligence.																									
Fractures and Contusions	...	...	...	...	5	...	2	...	1	...	5	2	3	...	2	...	4	1	2	1	...	1	24	5	29
Fall	...	...	...	1	2	1	...	...	2	...	2	...	1	...	1	2	...	4	1	2	...	1	9	11	20
Gunshot Wounds	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cut, Stab	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Burn, Scald	...	...	1	5	2	5	...	...	2	...	...	...	...	...	1	.	...	1	...	1	...	...	6	12	18
Run over by Vehicles	...	...	1	...	2	1	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	4	2	6

	0 to 1		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 55		55 to 65		65 to 75		75 to 85		85 and upwards.		Total All Ages.		Grand Total All Ages
VII.—DEATHS FROM VIOLENCE— *continued.*	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
1.—Accident or Negligence —*continued.*—																									
Poison	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	..	...	...	..	...	...	2	..	2
Drowning	..	...	1	1	10	...	2	..	3	..	3	...	4	...	1	...	...	..	...	...	...	...	24	1	25
Suffocation	1	1	...	...	2	...	...	...	...	...	.	...	...	...	..	...	..	...	...	...	...	...	3	1	4
Sunstroke	...	...	...	...	...	..	...	...	...	...	...	1	...	...	...	..	...	...	..	...	..	...	...	1	1
Otherwise	1	...	1	..	2	...	3	1	...	2	2	1	3	...	2	...	...	...	..	...	...	..	14	4	18
2.—Homicide.																									
Manslaughter	...	...	..	..	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	..	1
Murder	1	1	..	...	...	.	...	...	...	...	...	...	...		...	...	...	...	...	...	...	...	1	1	2
3.—Suicide.																									
Gunshot Wounds	..	...	...	...	...	...	...	...	..	...	1	...	...	...	...	...	...	...	..	...	..	...	1	...	1
Cut, Stab	...	...	...	...	...	...	...	..	1	...	1	...	...	...	...	...	...	...	...	..	...	..	2	...	2
Poison	...	...	...	...	...	...	...	...	...	...	3	...	2	...	...	...	..	...	...	..	...	...	5	...	5
Drowning	...	...	...	...	...	...	1	...	...	..	...	...	..	...	1	1	...	...	...	...	...	...	1	2	3
Hanging	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	..	...	...
Otherwise	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	..	...	...	..	...	...	2	2	4
4.—Execution.																									
Hanging	..	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
VIII.—DEATHS FROM ILL-DEFINED AND NOT SPECIFIED CAUSES.																									
Dropsy	...	...	...	...	...	1	..	...	...	...	...	1	...	..	...	...	...	...	...	...	...	..	...	2	2
Debility, Atrophy, Inanition	86	86	3	10	...	...	...	...	...	...	...	...	...	1	1	1	1	...	1	...	...	...	92	98	190
Mortification	..	..	...	..	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	..	...	...
Tumour	...	..	..	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...
Abscess	...	...	...	1	1	...	...	...	...	1	...	...	1	...	1	...	1	2	...	...	...	...	4	4	8
Hæmorrhage	1	...	...	...	...	...	...	...	..	...	..	...	...	...	...	...	...	...	...	...	..	...	1	...	1
Sudden Death (cause not ascertained) ...	1	1	...	...	..	...	...	...	...	1	4	...	..	2	2	2	1	...	...	...	...	...	8	6	14
Causes not Specified or Ill-defined ...	20	18	10	5	2	2	1	9	2	1	3	3	3	6	4	3	1	3	3	2	1	...	50	52	112

SUMMARY.

	No. of Deaths.		
	Male.	Female	Total.
I.—SPECIFIC FEBRILE, OR ZYMOTIC DISEASES.			
1.—Miasmatic Diseases	216	224	440
2.—Diarrhœal	56	40	96
3.—Malarial	...	...	...
4.—Zoogenous	...	...	...
5.—Venereal	11	13	24
6.—Septic	6	19	25
II.—PARASITIC DISEASES.	1	...	1
III.—DIETIC DISEASES.	3	2	5
IV.—CONSTITUTIONAL DISEASES.	401	394	795
V.—DEVELOPMENTAL DISEASES.	168	209	377
VI.—LOCAL DISEASES.			
1.—Diseases of Nervous System	283	290	573
2.—Diseases of Organs of Special Sense	...	1	1
3.—Diseases of Circulatory System	200	251	451
4.—Diseases of Respiratory System	457	444	901
5.—Diseases of Digestive System	101	128	229
6.—Diseases of Lymphatic System	...	...	...
7.—Diseases of Gland-like Organs of Uncertain Use	...	1	1
8.—Diseases of Urinary System	59	45	104
9.—Diseases of Reproductive System	...	...	...
A.—Diseases of Organs of Generation	1	11	12
B.—Diseases of Parturition	..	21	21
10.—Diseases of Bones and Joints	5	3	8
11.—Diseases of Connective Tissue	1	1	2
12.—Diseases of Integumentary System	5	3	8
VII.—VIOLENCE.			
1.—Accident or Negligence	86	37	123
2.—Homicide	2	1	3
3.—Suicide	11	4	15
4.—Execution	...	...	...
VIII.—ILL-DEFINED AND NOT SPECIFIED CAUSES.	155	162	317
	2228	2304	4532

Infectious Disease Notification Act, 1889.

1890. Notifications received during each Quarter of 1890.

Table A.

NOTIFIABLE DISEASE.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Totals of each Disease.
Small Pox	...	...	...	...	...
Choleraic Diarrhœa ...	...	..	1	2	3
Diphtheria	4	13	13	26	56
Erysipelas	23	19	24	39	105
Scarlet Fever or Scarlatina	76	154	145	184	559
Typhus Fever	...	1	...	...	1
Enteric or Typhoid Fever	23	40	25	34	122
Relapsing Fever ...	...	...	2*	...	2
Continued Fever ...	...	2	...	2	4
Puerperal Fever ...	1	4	4	2	11
Totals in each Quarter	127	233	214	289	863

* Notified as "Relapsing," but subsequently transferred to "Continued or Doubtful" column.

Table B.

NOTIFICATION.

Notification by Sub-Districts, and Deaths Registered during the Year 1890.

	Small Pox.	Cholera.	Diphtheria, Membranous Croup.		Erysipelas.		Scarlatina or Scarlet Fever		The Fevers known as									Total cases in each Sub-District.
									TYPHUS.		TYPHOID ENTERIC.		RELAPSING.	Continued or Doubtful.		PUERPERAL.		
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases	Deaths	Cases	Deaths		Cases	Deaths	Cases	Deaths	
St. Mary Redcliff	...	...	3	...	5	1	16	2	...	...	4	1	...	1	1	...	...	29
Castle Precincts	...	...	...	...	2	...	8	...	...	...	2	...	...	...	...	...	1	12
St. Paul	...	...	8	...	9	...	81	3	...	...	10	2	...	...	...	1	1	109
St. James	...	...	1	2	9	1	14	...	...	...	1	1	...	...	...	2	1	27
St. Augustine	...	...	1	...	7	...	19	1	1	...	1	2	...	...	...	...	...	29
Bedminster	..	...	5	3	27	1	79	5	...	...	17	3	...	...	1	2	2	130
Clifton	...	...	10	...	17	...	68	2	...	...	18	3	...	2	...	...	...	116
Ashley	...	...	9	2	4	3	69	5	...	...	4	...	...	1	1	1	...	88
St. Philip	...	...	10	7	18	1	172	19	...	...	53	16	...	2	...	5	7	262
Westbury	...	...	9	1	5	2	29	2	...	...	4	...	...	...	...	...	...	47
Extra Municipal Inst. ...	...	...	...	...	...	...	...	...	...	1	...	2	...	...	...	...	...	...
Admitted to Public Insts. from outside of Borough	...	...	...	1	2	...	4	1	...	...	8	3	...	...	..	...	...	14
Total cases of each disease	...	...	56	...	105	...	559	...	1	...	122	...	...	6	...	11	...	863
Total deaths from each disease	...	...	...	16	...	9	...	40	...	1	...	33	...	...	3	..	12	110
Percentage of deaths to known cases	...	...	28·5		8·5		7·1		...		27·0		...	50·0		...		...

The Notifications are since the 12th February, 1890,—while the Deaths are returned for the whole year.

Particulars as to Removal and Disinfection in all Cases Notified during the year 1890.

Table C.

	Small Pox.	Choleriac Diarrhœa.	Diphtheria Membranous Croup.	Erysipelas.	The Disease known as Scarlatina or Scarlet Fever.	The Fevers known by the following names:					TOTALS.
						Typhus.	Typhoid Enteric.	Relapsing.	Continued and Doubtful.	Puerperal.	
Cases removed to Hospital, Infirmary, or Children's Hospital	..	...	5	3	6	...	28	...	...	1	43
Cases removed to Sanitary Authority's Hospital	...	...	...	...	61	...	...	...	...	...	61
Cases removed by Guardians ...	...	...	...	...	12	1	4	...	...	...	17
Total Cases nursed at home	...	3	51	102	480	...	90	...	6	10	742
Total Cases known or notified ...	...	**3**	**56**	**105**	**559**	**1**	**122**	...	**6**	**11**	**863**
Cases in which disinfection of bedding, clothing, and rooms has been carried out, and necessary precautions taken under the supervision of District Inspector	...	...	45	105*	537	...	113	...	6	11	...
Cases in which disinfection was carried out to satisfaction of Medical Attendant	...	...	11	...	22	...	9	...	...	...	..

(March, 1891).

* Disinfection is not generally found necessary in cases of Erysipelas.

PREVALENCE OF SICKNESS.

1890.

Small Pox.

No cases of this disease were notified during the year.

Cholera, and Choleraic Diarrhœa.

Port Precautions.

In consequence of the appearance of Cholera in Spain during the summer months, particular care has been directed during the year to the supervision of vessels arriving from suspected continental ports, but no case of Cholera was introduced. (See Port Report).

A case of very acute Diarrhœa, attended with collapse, occurred during the week ending the 13th September, in a servant who had eaten freely of mackerel; it appeared to be an undoubted case of mackerel poisoning, and was followed by speedy recovery. A case was also reported as Choleraic Diarrhœa in each of the weeks ending the 11th October, and the 18th October, and these were at once visited; but as they did not present any special features differing from those ordinarily observed in severe summer Diarrhœa, and were followed by speedy recovery, they do not call for further comment.

Diphtheria, Membranous Croup.

During 1890, 56 cases of Diphtheria, or Membranous Croup were notified, and during the same year, 16 deaths were returned from these causes. The percentage of deaths to cases notified is thus seen to be 28·5, a proportion probably somewhat higher than the actual relation of deaths to cases, as complete notification did not come into force until February 12th. The number of deaths from this disease have, it is

Diphtheria, 1890.

satisfactory to note, declined from 28 in 1886, 23 in 1887, and 26 in 1888, to 15 in 1889, and 16 in 1890. During the year 1889, when notification was not in force, 21 cases only came to my knowledge, of which 15 were fatal cases. The possibility thus afforded by notification, of securing the observance of proper precautions, and of disinfection upon recovery in non-fatal cases, is of considerable importance. I am inclined to lay particular stress upon the control which can be exercised over school attendance from infected houses; for infection at school is a not uncommon means by which Diphtheria becomes epidemic.

In every case of Diphtheria notified during the year, careful enquiry has been made into all the sanitary conditions surrounding the case; and, as a result, 13 of the houses where cases occurred were found to have their drains or other sanitary arrangements defective, conditions which were at once rectified.

There exists too great a tendency to ascribe all cases of Diphtheria indiscriminately to drains, and a corresponding tendency to neglect conditions of dampness, and conditions of direct or mediate infection.

Decrease of Diphtheria in Bristol.

I trust that the favourable decrease in fatal cases of this disease noticed during the last few years will continue, for in some Urban Districts its prevalence and fatality is, I observe, stated to be considerably on the increase.

For purposes of sanitary control, Membranous Croup is classed under the same head as Diphtheria. Of the 56 cases under this head, six only were returned as Membranous Croup; one of these was reported as following Chicken Pox, and one as complicating Measles. Two cases were returned as "Croup after Measles," and one as "Croup with Bronchitis."

Erysipelas.

Doubtful value of Erysipelas Notification.

During the year 102 cases of Erysipelas have been notified, and 9 deaths have been ascribed to this cause. I have had occasion in more than one of my Quarterly Reports to advert to the trivial cases which are frequently notified as Erysipelas, cases in which it is not possible to imagine any necessity for either isolation or disinfection; the enquiries which have been carefully made into every case have, it is true, resulted in the discovery of 29 houses where various sanitary defects required rectification; but it is at least problematical, in many instances, whether these had any causal relation to the illness; and beyond the discovery of these ordinary nuisances, which a house to house inspection equally reveals, I doubt whether the notification of this disease is of much benefit.

Scarlet Fever or Scarlatina.

This disease has been rather more prevalent during 1890 than in the previous year. The total number of cases notified during the year was 559, and the number of deaths 40; compared with 223 cases known to us, and 26 deaths in 1889. A comparison between cases and deaths in the two years cannot be made, as Notification was not in force until February 12th, 1890; but the percentage of deaths to cases known in 1890 was 7·1 per cent.

Attacks by Age.

The distribution of Attacks by age was as follows:—

Under 5 years	167
5-10 „	234
10-20 „	128
Over 20 „	30

The disease was relatively most prevalent in the subdistricts of St. Paul and St. Philip, in which the disease attacked a little over* 40 and 30 per 10,000 respectively

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* Calculated only on cases notified after Feb. 12th, and therefore a little less than the actual rate.

Scarlet Fever, 1890.

of the population, while the smallest number of attacks were returned in the sub-districts of St. Augustine, Castle Precincts, Westbury, and Clifton, in which the attacks per 10,000 of population numbered respectively 14, 15, 15, and 16.

The disease proved most fatal in St. Philip sub-district, the deaths amounting to 3·3 per 10,000, and in St. Mary Redcliff, in which district the deaths amounted to 2·5 per 10,000, while no deaths were registered in Castle Precincts or St. James from this disease, and in Clifton and Westbury the rates were ·6 and 1·0 per 10,000 respectively.

The prevalence of Scarlet Fever throughout the year was fairly distributed, and no special influences appeared to be at work tending to the spread of the disease, beyond the usual careless exposure of convalescents, and the consequent infection from person to person.

Hospital Isolation in Scarlet Fever.

There is but one method by which the spread of Scarlet Fever in this way can be controlled, and that is by the provision and use of sufficient and well arranged Hospital accommodation. The use of your Authority's present Hospitals has been more general since the adoption of Notification; but yet greater good might be accomplished with extended and better arranged wards.

Disinfection in Scarlet Fever.

Very great importance is attached to the securing of disinfection in every notified case of Scarlet Fever; and whenever, from various reasons, the occupiers prefer to undertake their own disinfection upon the termination of the case, a certificate from the Medical attendant is required stating that he is satisfied the disinfection has been effectually done. It is of course impossible that domestic disinfection, especially of clothes and bedding, can be so complete as that carried out by means of the costly and efficient apparatus provided by your Committee, and it is satisfactory to report that in only 22 cases out of the total 559 were such certificates required to be furnished.

Typhus Fever.

As detailed in my Annual Report for 1889, a small and localised outbreak of Typhus Fever occurred during the latter half of the year, in the District of St. Augustine.

Two cases resulting from this outbreak were discovered and removed to Hospital from the same locality, on January 23rd, 1890. Careful measures of cleansing and disinfection were carried out, and no re-appearance of the disease was reported until June 10th, on which day a suspicious case occurred in the same street, and was at once removed by the Bristol Guardians to the Workhouse Hospital. Every precaution was taken with regard to the clothes, bedding, and rooms at the house from which the patient was removed, and no re-appearance of the disease has since occurred.

Disappearance of Typhus.

The death returned in the week ending 4th January, 1890, actually occurred on the 29th December, 1889, and has been dealt with in the Report for that year.

Enteric or Typhoid Fever.

The number of cases of Enteric Fever notified, and the number of deaths returned from this disease during the past four years are shown below.

	Cases known or notified.	Deaths.
1887	66	33
1888	99	28
1889	114	38
1890	122	33

Notification of Enteric Fever.

From this it would appear that, even before Notification had become compulsory, the proportion of cases notified to this department had been steadily increasing year by year, with a view to securing assistance in disinfection and the correction of Sanitary defects.

Enteric Fever, 1890

The lowest point of mortality from this disease was reached in 1885, when 16 deaths only were returned. These rose to 39 in 1886, and to 33 in 1887, again falling to 28 in 1888. The next highest point of mortality since 1884 was reached in 1889, when 38 deaths were returned from this cause, the figures for 1890 again show a tendency to decrease.

The prevalence and fatality of the disease in each quarter of 1890 is shown here.

	Cases.	Deaths.
1st Quarter	23	9
2nd Quarter	40	11
3rd Quarter	25	3
4th Quarter	34	10
	122	33

Introduction of Enteric Fever into City.

We were able during the third quarter to trace a large number, 10 out of 15 cases in hand, to actual introduction from outside the city, and cases introduced during the year came not only from various parts of England and Ireland, but from Denmark, Egypt, Spain, Holland and Newfoundland; a total of 18 cases were thus traced to outside sources.

There is no accommodation at present provided by your Authority for the isolation of Enteric Fever, a condition of things which will, I trust, soon be remedied; but cases of this disease are admitted into the Public Institutions and into the Guardians' Hospitals, and 34 cases of Enteric Fever were nursed in these Institutions during the year.

Very careful enquiry is made into the Sanitary condition of all houses in which Enteric Fever is reported, and 29 houses were found to have drains or other sanitary arrangements defective, these were in each instance rectified.

Enteric Fever, 1890.

Three cases reported during the second quarter as Enteric Fever were subsequently found not to be true cases of this disease, one proving to be Pneumonia, one Abscess of Liver, and one an indeterminate febrile attack; two cases reported during the 3rd quarter, as Relapsing Fever or "doubtful," seemed upon enquiry to be cases of Fever, possibly of a Typhoid nature, in children of one year and two-and-a-half years respectively.

The percentage of deaths to cases notified during the year was 27 per cent., a proportion possibly fairly near the truth, although complete Notification was not in force until the middle of February.

Polluted water appears to have played no part, or but a very insignificant part; in the dissemination of the disease, and in only four cases was pump or well water in use at the affected houses. In three of these the water was, upon analysis, proved to be bad, and Company's water was laid on; in the fourth case the water was found to be fit for use. The cases were scattered, and the disease did not tend to become epidemic in any part of the district.

The disease was relatively most prevalent in St. Philip, where the case-rate per 10,000 amounted to 9·3, and was least prevalent in St. Augustine and St. James, in which the case rates were respectively ·7 and 1·3 per 10,000.

Puerperal Fever.

Since the Notification Act came in force on February 12th, 11 cases of Puerperal Fever have been notified, and of these nine have proved fatal. Two deaths were also returned previous to the adoption of the Act, thus raising the total number of deaths during the year to 12. The mortality from this disease during the five preceding years had been—1885, 12; 1886, 8; 1887, 9; 1888, 17; 1889, 11.

Puerperal Fever, 1890.

Enquiry into the circumstances of each case has resulted in the discovery of defective sanitary conditions in 5 houses.

Very great care is taken in the complete disinfection of clothes and premises, and the midwife or nurse in attendance is not only cautioned, but the disinfection of her person and her clothes is also insisted upon.

Measles and Whooping Cough.

Measles

The deaths from Measles, which fell to 61 in 1888, rose in 1889 to 185, and decreased during 1890 to 92. Of these deaths 90 were of children under 5. The greatest relative mortality occurred in St. Paul and in St. Philip, in which the mortality amounted to 10·7 and 4·5 per 10,000 of the population. This disease is not at present included amongst Notifiable Diseases in this City, partly because through its early infectivity it has usually spread through a household of children before it is recognised, and thus offers less facilities for effectual control by means of isolation and disinfection; and partly because our Hospital accommodation is not yet sufficient to afford any measure of assistance by removal and isolation. There can be little doubt, however, that good would result from Notification of this disease in the case of Schools and Public Institutions, but our present means of disinfection would be insufficient to cope properly with Measles in epidemic form. As your Committee will see from the Inspector of Nuisances' Report, our present Disinfector is doing a great deal of excellent work, but, in order to deal with this rapidly spreading disease thoroughly, our available plant would require duplication. We have not yet the Hospital accommodation for effectually dealing with Scarlet Fever or with Enteric Fever, when these are satisfactorily accounted for, I trust we shall be able to take Measles in hand; for this disease, though as a rule of little severity amongst carefully tended children, is a cause of terrible mortality, chiefly through lung complications during convalescence, amongst the children of the poor.

The mortality from Whooping Cough, which had been 38 and 105 in 1888 and 1889, rose during 1890 to 201, of which 188 were the deaths of children under 5. As in Measles, so in this disease, neglect and chill account for large numbers of deaths; and it is difficult to devise effectual precautions to prevent its spread. By warning handbills and personal advice some slight good may be done, but it is difficult to persuade people of the necessity for any precautions. The disease showed the greatest relative fatality in St. Philip, St. Paul, and Bedminster.

Whooping Cough.

Influenza.

A memorable point in connection with the Sanitary history of the City during the year 1890, was the prevalence, during the first quarter, of *Epidemic Influenza,* which had, during the Autumn and Winter of 1889, travelled westward from Russia through Europe.

The disease became prevalent during January and February, the period of its greatest prevalence extending over the interval between the second week of January and the end of February, a period of some six or seven weeks; during March it rapidly declined, and at the end of this month the City was practically free from the disease.

Influenza becomes Epidemic in January.

48 deaths were ascribed to this cause directly in the death returns, a number of deaths which would, independently, have increased the Mortality Rate for the quarter by only ·82 per 1000 per annum.

But, coincidently with the presence of Influenza, the fatality of lung disease, of brain disease, and of heart disease, increased enormously; and, as had previously been observed in London and in other places during the prevalence of the epidemic, the added deaths from the three causes increased the general death-rate to a very high total during the six weeks of its chief prevalence. The highest weekly rate, 37·5, was reached during the week ending February 15th, and in this week 44 deaths were returned as due to Bronchitis alone, while the total deaths from lung diseases (including Phthisis) amounted to 61.

Increase in General Death-rate.

Table showing Ages at death of fatal cases of Influenza registered during the 13 Weeks ending 29th March, 1890.

0 to 1		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 55		55 to 65		65 to 75		75 to 85		85 and Upwards.		Total All Ages.	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
		2	3			1	4		3	5	3	2	3	5	3	1	7		4	1	1	17	31
		5				5		3		8		5		8		8		4		2		48	

Influenza.

High rate for first quarter.

The general mortality rate for the first quarter of the year was 26·95 per 1000 per annum, a higher rate than has been recorded for any quarter for 15 years; this quarter, however, frequently shows a very high rate of mortality, without seriously influencing the yearly average. Thus, in 1885 and 1887, the rate for the first quarter was respectively 24·9 and 24·3, while the rates for the respective years did not exceed 19·6 and 20·3, and the general annual death-rate for the year 1890 is 19·2.

High rates due to inclement weather.

As a general rule, when abnormally high weekly rates are observed during the winter months, in the absence of any prevalent debilitating epidemic; they are found to be due to an extraordinary fatality from disease of the lungs, brain, and heart, and particularly of the lungs in the very old, the very young, or the enfeebled from any cause; and to be associated in point of time with unusually inclement, cold, and variable weather.

The winter of 1878-9 presents the most recent example of a high winter fatality continuing over several weeks—the rates for the six weeks, from December 14th to January 18th, having been,—

Week ending		Week ending	
Dec. 14 ...	... 34·9	Jan. 4 ...	... 33·1
„ 21 ...	... 31·1	„ 11 ...	... 29·8
„ 28 ...	... 36·7	„ 18 ...	.. 29·3

Dr. Burder has kindly furnished the following comparison between the weather of 1878-9 and of 1889-90:—

Experience of 1878-79.

"The winter of 1878-79 was severe. The mean temperature "of December was 33·8, of January, 31·7; the mean of the "six weeks ending January 18th was 32·7. On the other "hand, the six weeks ending March 1st, 1890, being the six "weeks of highest death rate in Bristol in the past quarter, "had a mean temperature of 39·5, which differs but little from "the average for that period of the year.

Influenza.

"The weather of the first three months of 1890, with "reference to its possible bearing on the public health, may "be shortly summarised thus:—

"*January.*—The first three days frosty, remainder of month "rainy and very mild. On the whole, one of the warmest "Januaries on record.

"*February.*—Cold and very dry, without severe frost. "Extremes of temperature moderate in both directions; the "lowest 28, the highest 50.

"*March.*—The first four days cold. The sharpest part of "the winter on the 4th. Remainder of month mild and "generally dry. The mean temperature some 3 degrees above "the average.

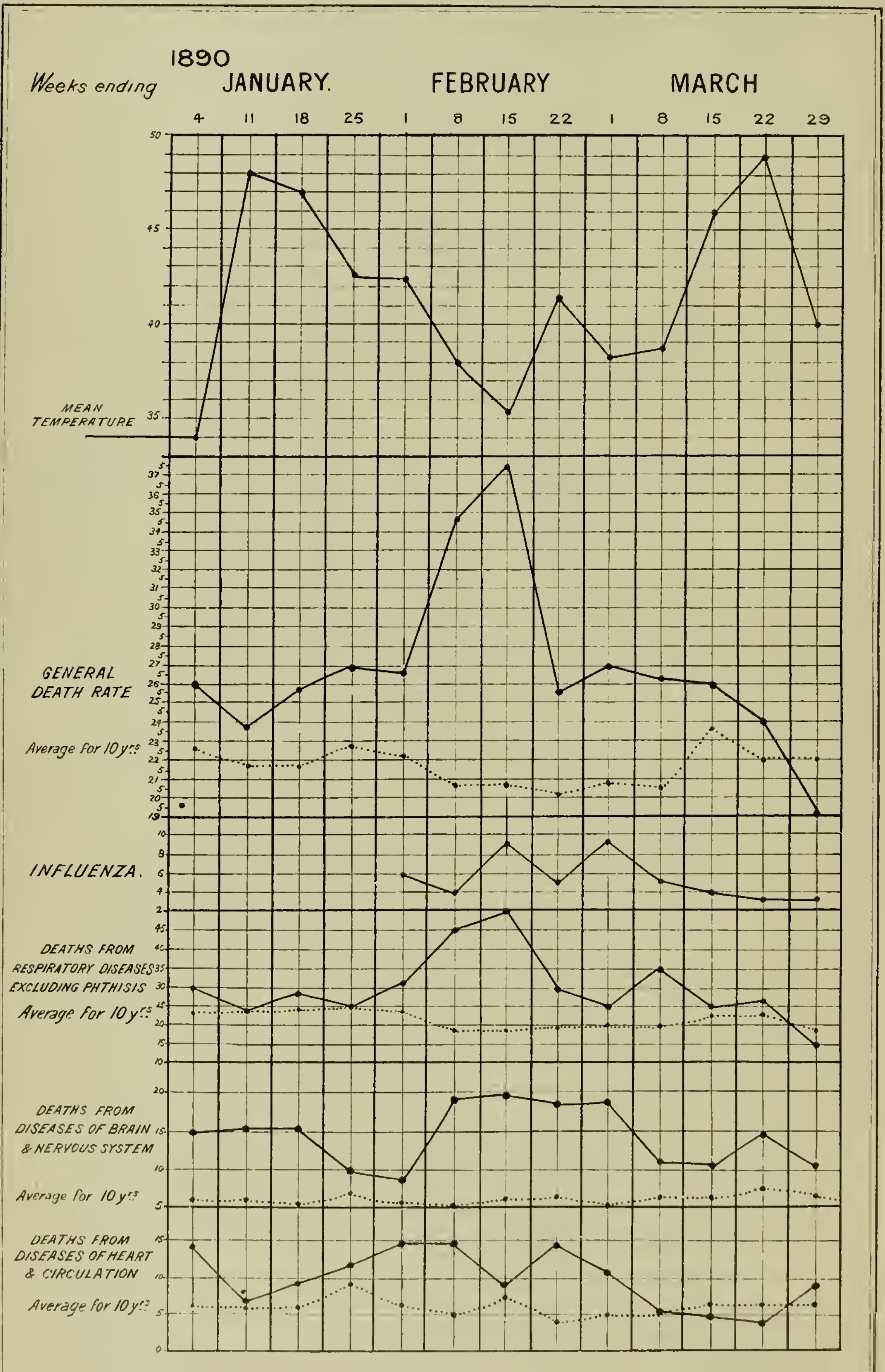
Weather of 1889-90 not markedly inclement.

From this it appears that, while the inclemency of the former period was so marked as reasonably to account for the high fatality, the weather of 1889-90, though showing occasional sudden transitions from unusual warmth to cold dry winds—has not in fact varied sufficiently from the average to account independently for the unusual and prolonged fatality from diseases of the lungs, heart, and brain; and it would appear probable that many fatal cases ascribed to pneumonia and other visceral diseases, have in fact been cases of Influenza, in which the typical symptoms have been either masked or unrecognised; while in other cases the *epidemic influence* has also very probably been a true cause in determining a fatal result by its debilitating effect upon persons already suffering from serious visceral disease.

The epidemic wave shown in Hospital returns.

The actual oncoming, increase, and subsidence of the epidemic wave in various parts of the city are well shown by the appended returns for the first quarter of 1890, of cases from the Bristol General Hospital and the Children's Hospital; and of the general medical cases applying for relief at the Royal Infirmary, in which also the marked rise above the general average is chiefly due to cases of this disease. The period of greatest prevalence is seen to be fairly synchronous with the weeks of highest mortality.

CHART showing for each of the first 13 weeks of 1890. the weekly mean temperature. the general death rate, together with the average rate for 10 years & the number of deaths. together with the average No. for 10 years. from diseases of the Respiratory System, of the Nervous System & of the Circulatory System; also the number of deaths directly ascribed to "Influenza" during these 13 weeks.



1890.

Influenza.

Weeks	1	2	3	4	5	6	7	8	9	10	11	12	13
Bristol General Hospital, (Influenza)	0	15	41	51	123	189	146	170	48	37	19	9	5
Children's Hospital (Influenza)	0	2	0	0	7	0	9	4	4	3	0	1	0
Infirmary (General Medical Cases).	85	128	164	127	191	208	123	129	113	100	88	100	88

The last week of the quarter, fortunately, proved also the last week of the high rates, which fell for the first week of the second quarter to 17·9, and for the second week to 16·8. During the second quarter, three deaths only were ascribed to Influenza, one during each first week of April, May, and June.

During the third quarter only one death was ascribed to this cause, in the week ending August 30th; and in the fourth quarter two deaths, one in the week ending October 4th, and one in the week ending November 1st.

Description of Chart.

The chart on the opposite page shows in a graphic form the component factors of the abnormally high death-wave which swept over the City during the first quarter of 1890, reaching its highest points in the sixth and seventh week of the year. The gross death-rate varies, as is usual, very nearly in direct accord with the fatality from Respiratory Diseases; and the weeks of greatest fatality, both from all causes, and from Respiratory Diseases, coincide in point of time with the weeks of lowest recorded mean temperature.

Comparative Table—Showing the general weekly death rate—and the number of deaths from diseases of the Lungs, Circulatory System and Nervous System during the first 13 weeks of 1890, 1889, and previous 10 years; also the number of deaths directly ascribed to "Influenza" during the same 13 weeks.

Week	1	2	3	4	5	6	7	8	9	10	11	12	13
General Death Rate … … 1890	26·04	23·79	25·81	27·16	26·94	34·79	37·49	25·63	27·16	26·39	26·04	24·24	19·08
… … 1889	21·38	25·47	22·52	18·19	19·10	19·10	23·20	18·65	17·74	17·28	22·97	18·65	19·56
Average for 10 years	22·75	21·90	21·77	22·77	22·37	20·64	20·77	20·21	20·93	20·78	23·62	22·01	22·05
Influenza, 1890. … …					**6**	**4**	**9**	**5**	**9**	**5**	**4**	**3**	**3**
No. of Deaths from Bronchitis and Diseases of the Lungs… 1890	30	23	28	25	32	45	51	30	26	35	25	27	14
(Excluding Phthisis) … … 1889	19	15	16	14	18	19	30	17	19	21	28	18	14
Average for 10 years	24	23	24	25	24	19	17	19	20	20	23	24	19
Diseases of the Brain and Nervous System … 1890	14	16	16	12	8	18	19	17	18	12	11	14	12
… 1889	7	13	8	9	10	15	7	7	13	8	12	12	17
Average for 10 years	7	7	6	7	6	5	6	6	5	6	6	7	6
Diseases of the Heart and Circulation … 1890	14	7	9	12	14	14	9	14	12	6	5	3	9
… 1889	9	17	9	5	5	11	5	6	3	6	15	7	4
Average for 10 years	6	6	6	9	6	5	7	4	5	5	6	6	6

Influenza.

Influenza, which had apparently prevailed sporadically in the City during the last weeks of 1889, but not in epidemic form till the beginning of January, is not credited directly with any deaths until the first week of February, the date of commencement of the highest mortality rates, and a period at which the weekly mean temperature was rapidly falling. It may be noted that the fatality from recorded Influenza, and also from diseases of the brain and nervous system, continued at or near the highest point after the general death rate, and that from respiratory diseases, had commenced to decline.

Influenza Enquiry.

Early in the spring of 1890 the Local Government Board invited replies to questions designed to elucidate the behaviour of this disease in epidemic form; and, as the collective experience of many observers forms the most valuable basis for general conclusions, I forwarded copies of these questions to the members of the medical profession in the City.

In response, 48 medical men kindly furnished me with particulars which I have endeavoured to summarise in the following pages.*

Question 1. Has any "Influenza," particularly if characterized by much nervous depression, severe frontal headache, or various muscular pains, shown itself in your practice? What number of such cases have you attended?

Returns of 8,214 cases.

In answer to this question, all the replies but one indicate a greater or less prevalence of such disease in the practice of the respondent, and the total number of such cases which these gentlemen have estimated to have occurred in their practice, amounts to 8,214, which gives an average of 171 cases to each.

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* I have to record my indebtedness to Dr. HEAVEN, your Assistant Port Medical Officer of Health, for valuable assistance in the preparation of this Summary.

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Question 2. The date of the first occurrence (as far as you know) of such an Influenza, and the date of commencement of any extensive prevalence of such disease?

Date of first occurrence.

Of the 44 replies to this question, 28 state that the disease was first observed during the early half of January, 1890, and five during the latter half. Nine observers record the commencement of the disease in the City respectively in October, November, and December. The earliest of these cases were among the telegraph clerks, letter sorters, and letter carriers in the postal service. The suggestion of infection carried through the mail-bags from London, where the disease was prevalent, is not unimportant. Of the two groups of cases reported in November, one is stated to have occurred in low-lying parts, of which Old Market Street, St. James, Bedminster, and Hotwells are instanced, and the other amongst the inmates of a "Home," but in this latter instance, no extensive prevalence is reported until the middle of January. It is obvious from these returns that the general appearance of the disease in the City did not commence until the early weeks of January.

Date of extensive prevalence.

Of the 40 replies as to the commencement of any extensive prevalence of the disease, 31 agree that this period was in January, and 28 of these refer its extreme prevalence to the middle or end of that month, while nine observers only did not find any marked extension until the month of February. All are agreed that the disease declined during the end of February, or early in March, and practically disappeared during the latter month.

Question 3. Any opinion you have formed as to the mode of origin or introduction of the disease; as to its method of spread, and the intervals of attack in members of households?

Mode of origin.

Very great diversity of opinion appears to exist as to the mode of origin and method of spread. Eleven observers with an aggregate experience of over 1,900 cases believe the disease not to be infectious, by which it appears they mean that it

Influenza.

Mode of origin and method of spread.

does not show any recognisable tendency to spread by direct infection from one person to another after the manner of such ordinary infectious fevers as Scarlet Fever or Small Pox. Considerable difficulty, indeed, appears to have been felt by most observers in expressing the exact opinions they have been able to form on this head, but the use of such a term as "miasma" to express the epidemic influence would appear to point to a belief in some infectious material given off from affected persons and air-borne, but not of necessity immediately acting on those directly in contact with the sick; possibly because it may not be infectious on its exit from the body, but needs for the development of its full powers, growth and multiplication in some material outside the body. Other peculiarities of its incidence may be explained by the action of a widely diffused infection; and a personal susceptibility, not only varied in amount, but variable from time to time. One observer notes particularly that in most of his cases, where a complete account of the attack could be obtained, complaint was made of a period of *malaise* lasting two or three weeks before the illness; and suggests that, as the bulk of his cases were solitary, this period of malaise may not have represented an incubation stage, but may have been a period of ordinary ill-health conducing to lower the normal power of resistance to a point ripe for attack and that as a fact, Influenza appears to attack only persons with such diminished resistance from whatever cause. The influence of continued exposure and of accumulation of infection, or "dose," must not be lost sight of, although no particular evidence on this point has been adduced; and the analogy of Typhus in this particular is perhaps instructive.

One observer, who attended 140 cases, says "the complaint did not seem to spread from street to street, or to be more in one part of the district than another. The cases occurred rapidly, scattered about; in some cases whole families were infected, but generally only two or three out of a family caught it, in spite of very close and filled living rooms." Another, with experience of 300 cases, remarks, "the disease seems to

Influenza.

Mode of origin and method of spread.

be disseminated by the air. I do not think the disease is very infectious in the ordinary way, as I have had cases where only one of the family has been affected, although no precautions have been taken to isolate: also, I have had whole families struck down in one day." Again, another, who saw 175 cases says, "its method of spread was not characteristic of contagion, but in many cases almost whole households were affected." Many other observers call attention to the common occurrence of simultaneous attacks in a household, indicating a common origin rather than personal infection, and to the frequent limitation of the disease to one person in the house. None of these observers appear to have noticed any definite intervals of attack.

On the other hand, 18 observers with an aggregate experience of over 2,600 cases, have noticed behaviour which they take to be characteristic of infection. Thus, one with an experience of 90 cases remarks, "several members of a family were attacked successively; friends visiting were likewise attacked." Another "found that fresh cases arose within a week of the first attack in a household." Others place the intervals of successive attacks at four to fourteen days, one to three days, two days, 24 to 48 hours, seven days, one to two days, seven days, three to four days, two to three days; while one observer records that in two instances coming under his notice the wife sickened six to seven days after the commencement of her husband's illness, and another records that a lady developed Influenza in 24 hours after visiting a house where several of the daughters were suffering, and two days after one of her children sickened also. Another observer records experience of two "Homes," one with 45 inmates, amongst whom no isolation of the sick was attempted, and 20 cases with one death occurred; while in the other, with 50 inmates, where isolation was enforced, only two cases occurred.

Question 4. Have you observed among domestic animals any unusual complaint, and in what animals, and with what symptoms?

Influenza in animals.

Of the 45 replies to this question, 34 are in the negative. Nine observers record personal experience of disease in animals. Five of these refer to horses, which appear to have suffered fairly extensively from symptoms including "fever, loss of appetite, injected conjunctivæ, swelling of eyelids and nares, with constipation; sore throat, swelling in neck with suppuration; coryza, low febrile condition with debility; inflamed eyes, loss of energy, running from nose and cough;" in all these cases prostration and slow convalescence appear to have been noticed.

One observer relates that two of his dogs were affected, and one died. Another, that a dog had symptoms closely resembling distemper, but of rather shorter duration, accompanied by bronchitis which shortly cleared up.

One cat, in a house where there were three cases, appears to have died of Influenza, and another cat at the General Hospital was affected with symptoms including running from the eyes, refusal of food, and constant sneezing, and had to be destroyed.

Question 5. Illustrations or observations as to the behaviour of any observed Influenza, especially (*a*) as to its dissemination among particular communities and (*b*) its incidence on particular localities.

Incidence on particular communities

Incidence on Particular Communities. (*a*)—There is not much evidence offered on this point. One observer, with an experience of 300 cases, remarks that the disease seems particularly to attack those who are much indoors, while persons whose occupation is chiefly outdoor either escape altogether or have the disease in a mild form, and also that it seems to affect the upper and middle classes more than the lower classes, who escape with, as a rule, very mild forms; while another observer, with an experience of 200 cases, found it most amongst people, especially men, who were in the open air a good deal. The colliers in one dis-

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trict appear to have been pretty generally attacked, though with no fatal results. A third observer noticed several simultaneous cases among the sisters in a Convent, while no cases occurred among the penitents, nor at the Reformatory School attached. Perhaps the most interesting description of its dissemination amongst a particular community is to be found in the account of its distribution and spread at Clifton College.* "The first cases of Influenza occurred on 27th January, just a week after the opening of the School term, in the Preparatory School, and in Letter I. House. (*See Tables*). Two cases were admitted to the Sanatorium from the former, and four from the latter—six cases in all—on the first day of the epidemic. The progress of the disease from this time was rapid, and in the third week of the term it had reached its height. You will observe from the Tables some peculiarities about it. You will remark the extraordinary immunity from it which the Junior School enjoyed in comparison with the Upper School or College proper. Only four cases occurred among the boarders in the Junior School, out of a strength of 73; and in the largest Junior House, containing 40 boys, there was only one case. You will also observe that in the Upper School the main weight of the epidemic fell upon three Houses, marked in the table E, I, and A; and it also severely affected the little boys in the Preparatory School, whose ages are from eight to 10. In the House marked E, 19 cases occurred within a few days, and four servants were attacked." * * * "I think I can safely affirm that every House is in a good sanitary condition, while some are models of good sanitation. While I cannot charge the prevalence of the epidemic in these four Houses to any special sanitary fault, I think there is an undoubted tendency in the disease to attack with great rapidity persons who are congregated in great numbers together." * * * "I have divided the cases which came under my notice into three classes: (1) mild uncomplicated cases, (2) severe uncompli-

Influenza at Clifton College.

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*Quoted from "Epidemic Influenza," by W. J. Fyffe, M.D., Bristol Medico-Chirurgical Journal, September, 1890, to which the reader is referred for full details, and a series of instructive cases.

Influenza at Clifton College.

cated cases, (3) cases complicated with lesion of some organ. Out of the entire number of 98 cases, there were six severe uncomplicated cases, and eight complicated with dangerous lung lesion. There was a great similarity in the onset of the symptoms in the mild cases, the boys were attacked as a rule suddenly—sometimes the attack came on early in the morning, sometimes late at night. The premonitory symptoms, even in severe cases, appeared to be of very short duration; the first symptoms being generally chilliness or giddiness. In one of the severest cases the boy had been playing hockey on the Downs in the afternoon, came home, changed his clothes, felt apparently well at six o'clock, joined his schoolfellows at tea and made a hearty meal; I was sent for at eight o'clock. He had been seized with rigor, and severe symptoms of Influenza had developed in that interval." * * * "In all my cases, whether mild or severe, catarrhal symptoms were conspicuous by their absence." * * * "In the mild uncomplicated cases the temperature seldom exceeded 102°, but headache, principally frontal, and pains in the chest, back, and thighs, were universally present, together with an extraordinary amount of prostration and weakness—a condition entirely out of proportion either to the severity of the fever or its duration, but indicative of a profound and sudden impression having been made on the nervous system." * * *

"In the six severe uncomplicated cases, I could discover no lesion of any organ. The symptoms were those of a fever, pure and simple, but a fever acute and severe, lasting from four to six days, ushered in by chilliness and rigor, accompanied by headache of a very severe character, and the usual pains about the trunk and thighs, but in an intensified form." * * * "The most prominent feature was great depression and debility. Fortunately, vomiting was seldom present, so that food and stimulants could be freely administered." * * * "The defervescence, when it occurred, was sudden and sharply defined." * * * "In these cases the highest temperature recorded was 105·4°, but the curve generally was from a maximum o

Table showing Percentage of Cases of Influenza in Masters' Houses in Clifton College.

THE COLLEGE.—NINE HOUSES.

	No. of Boarders.	Cases of Influenza.	Percentage.
A.	11	5	45·4
B.	15	4	26·6
C.	48	5	10·41
D.	48	7	14·50
E.	48	20	41·66
F.	48	8	16·66
G.	48	10	20·85
H.	10	1	10·00
I.	73	28	38·35
Totals	349	88	25·41

JUNIOR SCHOOL.

	No. of Boarders.	Cases of Influenza.	Percentage.
A.	40	1	2·50
B.	25	3	12·00
C.	8	0	0·00
Totals	73	4	5·00

PREPARATORY SCHOOL.

	No. of Boarders.	Cases of Influenza.	Percentage.
A.	13	6	46·15

SUMMARY.

	No. of Boys.	Cases of Influenza.	Percentage.
College	349	88	25·41
Junr. School	73	4	5·30
Preparatory	13	6	46·15
Total	435	98	22·83

TOWN BOYS.

	No. of Boys.	Cases of Influenza.	Percentage.
College	137	62	26·40
Junr. School	64		
Preparatory	33		
Total	234	62	26·40

Total strength of the School.	Total No. of Cases.	Percentage.
669	180	23·9

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Influenza at Clifton College.

104° to 101°, for five or six days, and then a drop to the normal point or below it." * * * "I think these severe uncomplicated cases exemplify the hypothesis that Influenza is a specific fever depending upon a blood poison." * * * "As soon as the fever ceased the patient was relieved, and no lesion of any organ could be discovered." * * *

"I now come to speak of the third class of cases which have come under my notice—cases of Influenza complicated with inflammation of some organ, either the lungs, bronchial membrane, pleura, or with an inflammatory condition of the bowels, or with lesion of the cerebro-spinal system." * * *

Dr. FYFFE observed in these cases the lungs to be the organs principally affected, and the distinguishing feature of the pulmonary mischief to be the sudden, violent, and rapid progress characterizing the inflammation, and the formidable symptoms accompanying it, placing life in the greatest peril in the course of a few hours with tendency to death from extreme prostration and cardiac failure.

Incidence on particular localities.

Incidence on Particular Localities. (b).—Only 14 of the replies received bear on the observed incidence of this disease upon particular localities. In point of time there appears to be some evidence that the low lying and working districts on the east and south of the City were affected a little earlier than the high lying districts to the north and west, but the opinion seems pretty general that, when it once became epidemic, the influence of locality was practically *nil.*

Influence of age.

Influence of Age. (c).—The incidence of the disease upon various ages is of some interest. Four observers, with a collective experience of nearly 700 cases, draw special attention to the fact that adult men are especially during the early part of an epidemic, liable to be attacked, particularly hardworked business men; later on the other members of the family and children

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Influence of age

suffer indiscriminately. Two observers, who had experience of 185 cases, remark that male adults from 12 to 35 years of age are more liable to be attacked than children, while those past middle age and infants appear practically exempt; while another observer from an experience of over 100 cases, remarks that adults escaped more frequently than children, in whom however the disease was generally milder.

Complications and sequelæ.

The above classification and description, adopted by Dr. Fyffe of the general features of mild uncomplicated, severe uncomplicated, and complicated cases, represent, with but little variation, the general behaviour of the disease as observed in Bristol. It would appear to be beyond the scope of these remarks to enter into a detailed or critical examination of the clinical features of influenza, but certain of its symptoms, complications, and sequelæ, present features of such importance in reference to the health of the community as to deserve notice. Chief among these are the profound nervous and cardiac depression accompanying the attack, tending in some cases to a fatal issue, from extreme prostration and cardiac failure; or leaving persistent weakness and debility in body or mind—a retarded convalescence, during which life is still in additional danger through an exaggerated liability to inflammatory lung affections. This pneumonia is very commonly described in the answers as being "of a low type." Gastro-intestinal symptoms were prominent in many cases, and numerous observers have recorded a tendency to relapse, or the occurrence of second attacks. Cutaneous rashes variously described as "Erythematous evanescent rash," "Scarlatiniform rash," were observed in several instances, and Herpes labialis appears to have been not uncommon. Three observers notice a strong resemblance to Dengue. There seems little doubt that Pneumonia of an aggravated and adynamic type has been the chief and most dangerous complication of the disease. Secondary only in frequency and importance have been the nerve phenomena, including pains in the head, spine, and

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limbs; depression amounting sometimes to melancholia; motor paralysis; cases of extreme, nearly fatal hiccough; delirium and collapse; and non-tuberculous cerebral meningitis, which have all been observed in the course of the disease in the City.

Absence of indications towards prevention.

The experience of Influenza thus recorded in Bristol appears to have been very similar to that observed in other parts of England and abroad, and the chief point for regret is that, vast as has been the numerical experience of the disease, the indications towards prevention are slight and unimportant. As to treatment, the indication is only too obvious to support strength, and to avoid all debilitating influences and exposure, not only during the disease but throughout convalescence; but of indication towards prophylaxis, the epidemic affords nothing material. The influence of station in life, site, soil, and sanitary conditions as generally understood are practically discounted; temperature, climate, and prevailing winds seem to exert but the indirect influence of depression and cold, and in spite of any precautionary measures at present understood the epidemic proceeds unchecked; showing, perhaps, a marked tendency to exempt young children, but otherwise attacking with great impartiality whole communities.

Infection.

On the question of Infection, little can be added to our previous text-book knowledge of former epidemics. As Bristowe has long since pointed out "Its origin and diffusion have, not unnaturally, been sought for in some occult telluric, atmospheric, or electrical condition, some widespread morbific influence, external to, and independent of, the frames which it affects injuriously.......It is quite certain that it is infectious in a very high degree—that its conveyance has frequently been traced from locality to locality by the direct agency of those who are suffering from it, and its diffusion in fresh localities from those infected immigrants as centres. It is certain therefore, that the disease may be imparted by a contagium, which, like other contagia, is specific, multiplies indefinitely in the body into which it has gained an entrance, and is thence evolved in marvellous abundance. Under these circumstances it seems most philosophical, at all events most consonant with the present state of our knowledge, to reject the vague theories first adverted to and to assume (notwithstanding many difficulties), that the contagious influence, which certainly causes it to spread in large numbers of cases from man to man, affords the true explanation of its epidemic diffusion." Influenza.

Phthisis (Pulmonary Consumption).

The conviction is steadily growing that this disease, no less than the group of the common Zymotic Diseases, may be to a large extent controlled by well considered precautionary measures.

The disease itself is so universal, and its fatality so persistent from year to year, that nothing but the force of "habit" can explain the apathy with which its presence amongst us is tolerated.

Phthisis mortality in Bristol.

During the past 11 years this disease has, single handed, destroyed over 4,000 lives in Bristol; and it is in each year the most fatal of any disease except Bronchitis, and nearly as fatal as all the eight principal Zymotics put together.

	1887.	1888.	1889.	1890.
Phthisis	332	333	326	413
Bronchitis	580	458	455	633
The group of Principal Zymotics	664	292	500	*536

*Including 54 deaths from "Influenza."

Phthisis precautions.

Although, in consequence of the long average duration of cases of Consumption, it is impossible to attempt to secure that isolation which is so effectual in the case of the acute infectious disorders; it is yet possible, by keeping in view its undoubted infectivity, and the methods of its spread, to lay down such precautions as would materially tend to check its extension.

The Health Department of New York City have formulated the following rules, based upon the conclusions arrived at by a Committee of Physicians and Pathologists of that City:—

Rules for Preventing the spread of Consumption.

" Pulmonary Tuberculosis (Consumption) is directly com-" municated from one person to another. The germ of the " disease exists in the expectoration of persons afflicted with " it.

" Tuberculosis is commonly produced in the lungs (which " are the organs most frequently affected) by breathing air in " which living germs are suspended as dust.

" The material, which is coughed up sometimes in large " quantities by persons suffering from Consumption, contains " these germs often in enormous numbers. This material " when expectorated, frequently lodges in places where it " dries, as in the street, on floors, carpets, handkerchiefs, &c. " After drying in one way or another, it is very apt to become " pulverised and float in the air as dust. By observing the " following rules the danger of catching the disease will be " reduced to a minimum:—

1.—" Do not permit persons suspected to have Con-" sumption to spit on the floor, or on clothes, un-" less the latter be immediately burnt. The " spittle of persons suspected to have Consumption " should be caught in earthen or glass dishes con-" taining the following solution:—

Phthisis precautions

“ Corrosive sublimate - - 1 part.
“ Water - - - - 1,000 parts.

2.—“ Do not sleep in a room occupied by a person “ suspected of having Consumption. The living “ rooms of a consumptive patient should have as ‘ little furniture as practicable—hangings should “ be especially avoided. The use of carpets, rugs, “ &c., ought always to be avoided.

3.—“ Do not fail to wash thoroughly the eating utensils “ of a person suspected of having Consumption, as “ soon after eating as possible, using boiling water “ for the purpose.

4.—“ Do not mingle the unwashed clothing of con- “ sumptive patients with similar clothing of other “ persons.

5.—“ Do not fail to catch the bowel discharges of “ consumptive patients with diarrhœa, in a vessel “ containing Corrosive sublimate 1 part, water “ 1,000 parts.

6.—“ Do not fail to consult the family physician con- “ cerning the social relations of persons suffering “ from suspected Consumption.

7.—“ Do not permit mothers suspected of Consump- “ tion to nurse their offspring.

8.—“ Household pets (animals or birds) are quite “ susceptible to Tuberculosis ; therefore do not ex- “ pose them to persons afflicted with Consumption; “ also do not keep, but destroy at once, all house- “ hold pets suspected of having Consumption, “ otherwise they may give it to human beings.

9.—“ Do not fail to cleanse throughly the floors, walls, “ and ceilings of the living and sleeping rooms of “ persons suffering from Consumption, at least “ once in two weeks.”

Phthisis Precautions.

To which may be added—

10.—It is advisable to boil all cow's milk thoroughly " before use, especially by children; as it is very " probable that Tubercle in children is frequently " caused by the use of milk from consumptive " cows.

11.—" The lungs should be protected from injury such " as arises from damp and overcrowded dwellings, " and from dusty occupations."

The necessity for disinfection of clothes, bedding, and rooms after the death of a consumptive patient, would appear to be obviously indicated in the interest of the family—one or two applications for such disinfection have been received and attended to during the year, but this precaution does not appear to be generally carried out.

Bristol Sanitary Authority's Hospitals.

REPORT FOR YEAR 1890, ENDING JANUARY 3RD, 1891.

Small Pox Hospitals—

Remaining from year 1889	0
Dismissed	0

Hospital empty at end of year.

Fever Hospital—Scarlet Fever.

Remaining from year 1889	8
Admitted	65
Dismissed cured	60
Died...	4
Remaining in Hospital	9

1890.

Distribution of Diarrhœa Deaths by Age, during the Autumnal Prevalence of the Disease.

WEEK ENDING.		Under One Year.	Over One Year and under Five Years.	Over Five Years.
July	5	...	...	...
,,	12	1	...	1 aged 59 years.
,,	19	2	...	1 aged 78 years
,,	26	...	...	2 aged 8 and 61 years.
August	2	1	...	...
,,	9	3	2	...
,,	16	9	...	...
,,	23	5	...	...
,,	30	4	1	...
September	6	3	...	...
,,	13	4	1	...
,,	20	2	1	...
,,	27	3	...	...
October	4	7	1	1 aged 46 years.
,,	11	6	..	...
,,	18	5	...	...
,,	25	1	...	...
November	1	..	1	...
,,	8	3	...	...
,,	15	1	1	...
,,	22	...	...	...
,,	29	...	...	..
		60	8	5

Total under 5 years 68

60 Deaths from Diarrhœa of Infants under one year, during the Autumnal prevalence of the disease, classified by circumstances of feeding.

WEEK ENDING.		Fed from Breast only.	Breast and Other Food.	Artificial Food only.	Total under One Year.
July	5	...	...	...	...
,,	12	1	..	...	1
,,	19	...	...	2	2
,,	26	...	...	...	...
August	2	1	...	...	1
,,	9	...	...	3	3
,,	16	4	2	3	9
,,	23	1	3	1	5
,,	30	1	...	3	4
September	6	1	2	...	3
,,	13	...	1	3	4
,,	20	1	...	1	2
,,	27	1	1	1	3
October	4	2	1	4	7
,,	11	1	2	3	6
,,	18	1	3	1	5
,,	25	...	...	1	1
November	1	...	...	...	...
,,	8	1	...	2	3
,,	15	...	1	...	1
,,	22	...	...	...	...
,,	29	...	...	...	...
		16	16	28	60

STREET LIST,

Arranged by Sub-Districts, showing the Locality of Deaths from certain specified causes.

(Deaths occurring in the Public Institutions situated in Sub-Registration Districts are omitted from this List).

ST. MARY REDCLIFF.

Name of Street.	Small Pox.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Diarrhœa.	Phthisis.	Pneumonia.
Avon Street	...	...	...	1	1	...	2
Barossa Place	...	...	..	...	...	1	..
Bath Parade	...	...	...	...	..	1	1
Bryant Street	...	...	...	...	...	1	...
Brickyard	...	...	...	...	...	1	..
Butter Lane	...	...	...	...	...	1	...
Church Lane	...	...	...	...	...	1	...
Church Street	...	...	...	...	..	...	1
Clarence Road	...	...	1	...	...	...	1
Colston Place	...	...	...	...	...	2	...
Jones' Court	...	1	...	...	...	...	...
Merrick's Buildings ...	...	...	...	...	...	...	1
Nelson Parade	...	...	...	...	...	1	...
Nelson Place	...	...	...	...	...	1	...
Orchard Square... ...	...	...	...	...	1	...	...
Penny's Court	...	...	...	...	..	1	...
Phippen Street	...	1	...	..	...	1	...
Pruett Street	..	...	...	...	...	1	...
Redcliff Hill	...	...	...	...	1	...	...
Redcliff Buildings ..	..	...	..	...	...	1	...
Redcliff Mead Lane ...	...	...	...	...	1	...	...
Redcliff Parade	...	...	...	...	...	2	...
Rose Street	..	...	...	...	1	...	...
Rowley Place	..	...	...	...	...	...	1
Taylor's Court	...	...	...	...	...	...	1
Temple Back	...	...	...	...	...	...	1
Temple Street	...	...	...	...	...	...	1
Thomas Street	...	...	...	...	1	1	1
Victoria Street	...	...	..	...	...	...	2
Waterloo Court	...	...	...	...	...	1	...
Total ...	0	2	1	1	6	18	13

CASTLE PRECINCTS.

Name of Street.	Small Pox	Scarlet Fever.	Diphtheria.	Enteric Fever.	Diarrhœa.	Phthisis.	Pneumonia.
All Saints' Street	...	...	..	...	...	...	2
Bridewell Court	...	...	...	...	...	...	1
Broad Quay	...	...	...	...	...	...	1
Castle Street	...	...	...	...	1	...	...
King Street	...	...	...	...	...	2	...
Lower Castle Street	...	...	...	...	...	..	1
Penn Street	...	...	...	...	...	...	1
Prince Street	...	...	...	...	...	...	1
Queen Charlotte Street	..	...	...	...	...	...	1
Taylor's Court	...	...	...	...	...	...	1
Tower Lane	...	...	...	...	...	...	1
Viacoff Parade	...	...	...	...	...	...	1
Total	0	0	0	0	1	2	11

ST. PAUL.

Name of Street.	Small Pox	Scarlet Fever.	Diphtheria.	Enteric Fever.	Diarrhœa.	Phthisis.	Pneumonia.
Albert Street	...	...	...	..	...	2	...
Badminton Road	...	...	..	..	...	1	..
Bishop Street	...	...	...	...	...	...	1
Brigstocke Road	...	...	...	...	..	1	...
Brown's Cottages	...	..	...	..	1	...	...
Bull's Place	...	...	...	...	1	...	...
Cairn's Crescent	...	...	...	...	...	1	...
Callowhill Street	...	...	...	...	..	2	2
City Road	...	...	...	...	1	1	...
Cross Gardens	...	1	...	...	...	...	...
Cross Street	...	...	...	...	...	1	...
Dale Street	...	1	...	...	...	1	...
Davey Street	..	...	...	...	...	...	1
Dean Street	...	...	...	1	...	..	...
Dermot Street	...	...	...	...	...	2	...
Franklyn Street	...	...	...	...	...	1	1
Glo'ster Place	...	...	...	...	...	...	1
Grosvenor Road	...	...	...	..	...	...	1
Hanover Street	...	...	...	...	1	...	...
Hepburn Road	...	...	...	1	...	...	...
Hill Street	...	...	...	...	2	2	...
Hollister Street	...	...	...	...	...	1	...
Irvine Terrace	...	...	..	...	1	...	...
Jacob Street	...	...	...	...	1	2	...
James' Terrace	...	...	...	...	...	...	1
John Street	...	...	...	...	...	1	...
London Road	...	...	...	...	...	1	...
Lyne's Court	...	...	...	...	...	...	1
Lake Street	...	...	...	...	...	3	...
Leek Lane	..	...	..	...	...	1	...
Lower Ashley Road	.	...	...	...	...	1	...

ST. PAUL.—Continued.

Name of Street.	Small Pox.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Diarrhœa.	Phthisis.	Pneumonia.
Mills' Place	...	...	...	...	...	1	...
Manor Street	...	...	...	...	...	...	1
Milk Street	...	...	...	...	...	1	...
Montrose Terrace	...	...	...	...	...	1	...
Morgan Street	...	...	...	...	...	3	...
Newfoundland Road	...	...	...	...	...	3	...
Norfolk Street	...	...	...	...	...	1	...
Old Market Street	...	...	...	...	...	1	1
Orange Street	...	...	...	...	...	2	...
Penn Street	...	...	...	...	...	1	1
Philadelphia Street	...	...	...	...	...	2	...
Redcross Street	...	...	...	...	...	1	...
Rich's Buildings	...	...	...	...	1	...	...
Saint Nicholas Road	...	...	...	...	...	1	1
Sheats' Court	...	...	...	...	...	1	...
Thomas Street	...	...	...	...	1	...	...
Tudor Road	...	...	...	...	...	1	...
Union Place	...	...	...	...	...	1	...
Victoria Street	...	...	...	...	...	1	...
Waterloo Court	...	...	...	...	...	...	1
Water Street	...	...	...	...	...	1	...
Wilder Street	...	...	...	...	1	1	...
Wilson Place	...	...	...	...	...	1	...
Wilson Street	...	...	...	...	...	1	1
Windsor Terrace	...	...	...	...	...	1	...
Total ...	0	2	0	2	11	52	15

ST. JAMES.

Name of Street.	Small Pox.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Diarrhœa.	Phthisis.	Pneumonia.
Blackfriars	...	...	...	...	...	1	...
Charles Street	...	...	...	...	...	3	...
Cherry Lane	...	...	...	...	...	1	...
Earl Street	...	...	...	...	...	1	...
Gravel Street	...	...	...	...	...	1	...
Harford Street	...	...	...	...	...	1	...
Horsefair	...	...	...	...	...	1	1
Lewin's Mead	...	...	...	1	...	...	...
Lower Maudlin Street	...	...	...	...	1	1	...
Marlborough Street	...	...	...	...	...	...	2
Merchant Street	...	...	...	...	...	...	1
Montague Hill	...	...	1	...	...	...	...
Saint Nicholas Road	...	...	...	...	1	...	1
Silver Street	...	...	...	...	...	1	...
Whittington Court	...	...	...	...	...	1	...
Total ...	0	0	1	1	2	12	5

ST. AUGUSTINE.

Name of Street.	Small Pox.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Diarrhœa.	Phthisis.	Pneumonia.
Brandon Steep	..	...	...	...	...	1	...
College Place	..	...	...	...	...	1	...
Deanery Road	...	...	.	...	...	1	...
Frogmore Clifft	...	...	...	...	...	1	..
Hamilton Place	...	...	...	...	...	1	..
Hanover Street	...	...	...	..	...	...	1
Kent's Buildings	...	...	...	...	...	...	1
Lambert's Court	...	..	...	...	1	..	...
Lower Old Park Hill	...	...	...	...	..	1	.
Melbourne Buildings	...	...	...	...	...	...	1
Pipe Lane	...	...	...	..	...	1	1
Rupert Street	...	...	...	...	...	...	1
Saint Augustine's Bank	...	...	...	..	..	...	1
Saint Michael's Buildings	...	...	...	...	...	...	1
Saint Michael's Hill	...	...	...	...	...	1	2
Saint George's Road	...	..	...	...	...	1	...
Saint George's Place	...	...	...	...	...	...	1
Stoney Hill	...	...	...	...	...	1	...
Southwell Street	...	...	...	...	...	1	..
Tolman's Buildings	...	...	...	...	...	1	...
Trinity Street	...	...	..	...	...	1	...
Upper Berkeley Place	...	...	..	1	...	...	...
Upper Wells Street	...	...	..	...	1	1	...
Warren's Court	...	...	...	...	...	1	...
Waterloo Court	...	...	...	...	..	1	...
York Place	...	...	...	...	...	...	1
Total ...	0	0	0	1	2	16	11

BEDMINSTER.

Albion Place	..	...	...	...	...	1	...
Allen's Square	...	...	...	..	...	1	...
Bartley Street	..	...	...	...	...	...	1
Baynton's Buildings	...	...	...	...	...	...	1
Bedminster Place	...	...	...	..	...	1	1
Brook Street	...	...	...	...	1	...	...
Butt Street	...	...	...	...	...	...	1
Cabot Street	...	...	...	...	...	...	1
Cambridge Street	...	...	...	...	...	1	..
Cathay	...	...	...	...	...	1	...
Catherine Mead Street	...	...	...	1	...	...	...
Charlotte Street	...	...	...	...	...	1	...
Clarence Place	...	...	...	...	1	...	1
Clarence Road	...	..	...	...	...	...	1
Colston Street	...	..	...	...	...	1	4
Coronation Road	...	...	...	...	...	2	...
Dean Crescent	..	...	...	...	...	1	...

BEDMINSTER.—Continued.

Name of Street.	Small Pox.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Diarrhœa.	Phthisis.	Pneumonia.
Doveton Street	...	...	...	...	...	1	..
East Street	...	...	...	...	..	2	1
Eldon Terrace	...	...	...	...	1	...	2
Essex Street	...	...	...	...	1	...	..
Fairfield Terrace	...	...	...	...	...	1	...
Greenbank Road	..	...	...	...	1	...	...
Greville Road	...	...	1	...	...	...	...
Greville Street	...	...	...	...	...	1	...
Gwilliam Street	...	...	...	...	...	1	1
Harford Square	...	...	...	...	1	...	...
Harford Street	...	...	...	...	1	...	...
Hill Street	...	1	...	...	...	...	1
Hillsbridge Court	...	...	...	..	...	1	...
Hope Square	...	...	..	...	...	1	...
Howard Road	...	...	...	...	...	...	1
King Street	...	...	...	...	...	2	4
Langton Park	...	...	...	...	...	1	...
Langton Terrace	...	...	..	...	...	...	1
Leicester Street	...	...	...	..	...	1	...
Leigh Street	..	...	...	...	1	1	...
Leigh Terrace	...	...	...	...	...	1	...
Lombard Cottages	..	...	...	...	1	...	...
Lombard Terrace	...	...	...	...	2	...	...
Manley Place	...	...	...	...	...	...	1
Mayor Street	...	...	...	...	...	...	1
Mead Street	...	...	...	...	...	2	...
Merioneth Street	...	1	..	...	1	1	...
Mill Lane	...	...	..	...	...	2	...
Moor's Cottages	...	...	...	...	...	1	..
Mount Pleasant Terrace	...	...	...	...	...	...	1
Murry Road	...	...	...	...	...	...	1
Myrtle Street	...	...	...	...	...	1	1
New Margaret Street	...	...	..	...	1	...	...
North Street	...	...	...	...	1	1	...
Nursery	...	..	...	...	...	...	1
Orchard Place	...	...	...	...	...	1	...
Osborne Road	...	...	...	...	...	1	...
Oxford Place	...	...	...	...	...	...	1
Oxford Street	...	...	...	...	1	..	...
Pembroke Place	...	1	...	...	...	...	...
Peter Street	...	..	...	...	1	..	...
Philip Street	...	...	...	...	...	1	1
Phipp's Street	...	...	...	...	1	...	1
Princes Street	...	...	1	...	...	...	...
Prospect Terrace	...	.	...	...	...	1	...
Pylle Hill Crescent	...	...	...	1	...	...	...
Queen Street	..	...	..	...	...	2	...
Railway Cottages	...	...	...	...	...	1	...
Richmond Street	...	...	...	...	...	1	...
Richmond Terrace	...	...	1	...	...	...	...
Saint John's Road	...	...	...	...	1	...	...
Saint Luke's Road	...	...	...	...	1	...	1

BEDMINSTER.—Continued.

Name of Street.	Small Pox.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Diarrhea.	Phthisis.	Pneumonia.
Sargent Street	..	1	...	...	...	2	...
Ship Lane	...	...	...	...	...	...	1
Sion Road	...	...	...	...	...	1	...
Sion Row	...	...	...	...	1	...	...
Somerset Street	...	...	...	1	...	2	...
Spring Street	...	...	...	..	...	1	...
Spring Street Place	...	..	...	...	...	...	1
Saint Luke's Road	...	..	..	...	2	...	...
Stackpole Road	...	...	...	...	...	...	1
Stanley Street	...	...	...	...	2	1	2
Stone's Buildings	...	...	...	...	...	2	..
South Road	...	...	...	...	...	1	.
Stracey Street	...	...	..	...	...	...	2
Turner's Buildings	...	...	...	..	..	1	...
Union Place	...	..	...	...	..	...	1
Vauxhall Crescent	...	...	...	..	...	2	1
Walter Street	...	...	...	...	1	...	...
Water's Place	...	...	...	...	1	...	...
Wellington Street	...	...	...	...	..	...	1
Wells Road	..	...	.	...	...	1	...
West Street	...	...	...	...	...	1	1
Whitehouse Street	...	...	..	...	...	...	1
William Street	...	...	...	..	...	1	...
Willway Street	...	...	...	...	...	..	1
Windsor Terrace	..	...	...	...	...	1	...
York Road	..	...	...	...	...	...	1
Total ...	0	4	3	3	26	57	46

CLIFTON.

Ambra Vale, East	...	...	...	...	...	1	...
Ambra Vale, West	...	...	...	...	..	...	1
Apsley Road	...	...	...	1	...	..	...
Argyle Place	...	...	...	...	...	1	1
Arlington Villas	...	...	...	..	...	1	...
Avon Crescent	...	...	...	...	1	...	...
Belle Vue Crescent	...	...	...	...	...	1	1
Berkeley Place	...	...	...	...	1	...	1
Brandon Buildings	...	...	...	...	1	..	...
Brunswick Cottages	...	...	...	...	...	1	...
Buckingham Cottages	...	...	...	1	...	...	...
Caroline Place	...	...	...	...	1	...	...
Chapel Row	...	...	...	...	...	...	1
Clifton Place	...	...	...	..	...	1	...
Clifton Wood Crescent	...	.	...	...	...	2	...
Dowry Parade	...	..	...	...	...	...	1
Dowry Place	...	..	...	...	...	1	...

CLIFTON.—Continued.

Name of Street.	Small Pox.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Diarrhœa.	Phthisis.	Pneumonia.
Gorse Lane	...	1	...	...	...	...	...
High Street	...	...	...	...	.	1	...
Highland Crescent	...	...	..	...	...	...	1
Highland Vale	...	...	...	...	...	1	...
Hope Chapel Hill	...	...	..	...	...	2	...
Hope Square	...	...	...	...	...	1	...
Hotwell Road	...	...	...	...	...	2	...
King's Road	...	...	...	...	...	2	...
Leigh Road, South	...	...	...	...	..	...	1
Love Street	...	..	...	...	...	...	1
Meridian Vale	...	...	...	...	.	...	1
Oxford Buildings	...	...	...	...	...	...	1
Pembroke Villas..	...	...	...	...	..	..	1
Pembroke Road	...	...	...	...	...	1	...
Polygon	..	...	...	...	...	1	..
Quarry Steps	...	...	...	...	...	...	1
Rosemont Terrace	...	...	...	...	1	...	...
Saint Paul's Road	...	..	...	...	...	...	1
Saville Place	...	...	...	...	...	.	1
Simm's Row	...	..	...	...	...	1	...
Sion Hill	...	...	..	...	...	...	1
Southernhay	...	..	...	..	...	1	..
Sutherland Terrace	...	...	...	...	...	1	1
Victoria Square	...	...	...	1	. .	...	...
Waterloo Street	...	...	...	...	...	1	..
Wellington Park	...	...	...	...	..	...	1
Wellington Place	...	...	...	..	...	...	1
Western Square	...	...	..	...	1	...	...
White Ladies' Road	...	...	...	...	.	1	...
Worrall Road	...	...	...	...	1	..	1
Worcester Crescent	...	...	...	...	...	1	...
York Place	...	...	...	...	...	...	1
Total ...	0	1	0	3	7	26	21

ASHLEY.

Albert Park	...	...	...	...	...	1	...
Ashley Hill	...	...	...	...	...	1	...
Ashley Down	...	...	...	...	...	...	2
Ashley Parade	...	...	...	..	...	1	...
Ashley Place	...	...	...	...	.	1	..
Ashley Road	...	...	...	...	...	...	1
Ashley Street	..	...	...	...	...	...	1
Bath Buildings	..	...	...	...	...	..	1
Belmont Road	...	...	...	...	...	...	2
Belvoir Road	...	...	...	...	...	1	...
Canton Street	...	...	...	...	...	...	1

ASHLEY.—Continued.

Name of Street.		Small Pox.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Diarrhœa.	Phthisis.	Pneumonia.
Chandos Place ...	...	...	...	...	...	...	...	1
Cheltenham Place	...	...	...	...	...	...	1	...
Chesterfield Road	...	..	...	...	...	...	3	...
City Road ...	.	...	...	...	..	...	3	...
Clement Street ...	...	...	1	...	...	...	1	...
Conduit Street ...	...	...	...	...	...	1	...	...
Cotham Brow ...	...	...	...	1	...	...	...	...
Cromwell Road ...	...	...	...	...	...	...	...	1
Elton Street ...	...	...	...	...	...	1	...	...
Francis Place ...	...	...	...	...	...	...	...	1
Freemantle Road	...	...	...	...	...	...	...	1
Freemantle Square	...	...	..	...	...	...	1	...
Grosvenor Road...	...	...	..	...	...	...	1	3
Jubilee Row ...	...	...	...	...	...	1	...	...
Kingsdown Parade	...	...	...	...	...	...	1	...
Longfield Road ...	...	...	...	1	...	...	...	...
Lower Ashley Road	...	...	...	...	...	...	1	1
Marlboro' Hill Place	...	..	...	...	...	...	1	...
Monk Street ...	..	...	...	...	...	...	1	...
Montague Hill ...	...	...	...	...	...	...	2	...
Montague Terrace	...	...	...	...	...	...	1	...
Morley Street ...	...	...	...	...	...	1	...	...
Morton Street ...	...	...	...	...	...	...	1	...
Newfoundland Place	...		...	...	..	1	...	...
Newfoundland Road	...	..	2	...	...	...	1	...
Newfoundland Street	...	...	...	..	...	1	1	...
North Road ...	...	...	...	...	...	...	1	...
Orphan House ...	...	...	...	...	...	...	4	1
Picton Lane ...	...	...	...	...	...	...	1	...
Richmond Road ...	...	...	...	...	...	...	2	...
Saint Andrew's Road	...	...	...	...	...	...	1	...
Shaftesbury Avenue	...	...	1	...	...	...	...	...
Somerset Street ...	...	...	...	...	...	...	1	1
Stoke's Croft ...	...	...	1	...	...	...	...	...
Union Place ...	...	...	...	...	...	...	...	1
Upper Gay Street	...	...	...	...	...	...	1	...
Walcot Street ...	...	...	...	...	...	...	2	...
Wellington Road	...	...	...	...	...	...	...	3
Total	...	0	5	2	0	6	38	22

ST. PHILIP.

Name of Street.		Small Pox.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Diarrhœa.	Phthisis.	Pneumonia.
Aberdeen Street	...	...	1	...	...	...	...	...
Alfred Street ...	...	...	...	...	...	...	1	...
Amberley Street	...	...	...	...	...	...	1	...
Anvill Street ...	...	...	...	...	...	...	...	1
Armoury Square	...	...	...	...	...	...	1	...
Baptist Street ...	...	...	...	...	...	...	...	1
Barton Hill Road	...	...	...	1	...	1	2	...

ST. PHILIP.—Continued.

Name of Street.	Small Pox.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Diarrhœa.	Phthisis.	Pneumonia.
Barrow Lane	...	...	...	...	...	1	...
Beaconsfield Street	...	...	...	...	...	...	1
Beaumont Street	...	...	...	...	...	4	1
Beaumont Terrace	...	...	...	...	...	1	...
Bollom's Court	...	...	...	...	...	...	1
Bouverie Street	...	...	...	...	...	1	...
Bragg's Lane	...	...	...	...	...	...	1
Brick Street	...	...	...	...	...	2	...
Brougham Street	...	...	...	...	...	1	...
Burgess Court	...	...	...	...	...	1	...
Butter Alley	...	...	...	...	...	1	...
Chancery Street	...	...	...	...	...	2	1
Charlton Street	...	...	...	1	...	1	...
Church Street	...	...	...	...	...	1	...
Claremont Street	...	...	...	...	...	2	...
Clarence Road	...	...	...	...	...	...	1
Clark Street,	...	...	...	...	...	1	...
Clifton Street	...	...	...	...	...	...	1
Cohen Buildings	...	...	...	...	...	...	1
Cook's Gardens	...	1	...	...	...	...	...
Cumberland Street	...	...	...	...	...	1	...
Digby Street	...	...	...	...	...	1	2
Eagle Street	...	...	...	...	1	...	...
Easton Road	...	...	...	1	...	...	1
Edward Street	...	1	...	...	...	...	1
Eugene Street	...	...	...	...	...	1	...
Felix Road	...	...	...	...	...	1	...
Folly Lane	...	2	...	...	...	...	...
Fox Lane	...	...	...	...	1	...	1
Fox Terrace	...	...	...	...	...	1	...
Gas Lane	...	...	...	1	...	1	1
Gloucester Buildings	...	...	...	...	...	1	...
Gloucester Lane	...	...	...	...	...	...	2
Goodhind Street	...	...	...	...	...	1	1
Grafton Street	...	...	...	2	...	...	3
Great Ann Street	...	...	...	...	...	3	...
Great George Street	...	...	...	...	...	1	1
Great Western Street	...	...	...	...	1	...	...
Hardinge Street	...	...	1	...	...	1	...
Henry Street, Dings	...	...	...	...	1	...	1
Hulbert Street	...	...	...	...	...	1	...
James Street, Mina Road	...	...	...	...	1	3	...
John Street, Easton	...	...	...	...	...	2	...
John Street, Mina Road	...	...	...	...	...	1	...
Jubilee Street	...	...	...	...	...	...	1
Kingsland Road	...	1	...	4	2	3	1
Lamb Street	...	...	...	...	...	1	...
Lawford's Gate	...	...	...	...	...	1	...
Lawrence Hill	...	...	...	...	1	1	2
Lewis Street	...	...	...	1	1	...	1
Lion Street	...	...	...	...	...	...	1
Lincoln Street	...	...	...	...	...	4	1
Little Ann Street	...	...	...	...	...	...	2

ST. PHILIP.—Continued.

Name of Street.	Small Pox.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Diarrhœa.	Phthisis.	Pneumonia.
Little George Street	...	...	...	...	...	1	...
Lower Barton Hill Road	...	...	...	1	...	...	...
Meriton Street	...	...	...	...	...	2	...
Meyrick Street	...	...	...	...	...	1	...
Millpond Street	...	...	...	...	...	...	1
Moor Street	...	...	...	...	...	...	1
Mount Pleasant Terrace, Dings	...	...	...	...	...	1	...
Narrow Plain	...	...	...	...	...	1	...
New Amberley Street	...	...	...	...	...	...	2
New Street	...	...	...	1	...	2	1
New George Street	...	...	...	...	1	...	1
New Thomas Street	...	...	...	...	...	1	...
Newton Street	...	...	...	...	...	1	1
Old Amberley Street	...	...	...	...	...	1	...
Old Bread Street	...	1	...	...	2	1	...
Old Cheese Lane	...	1	...	...	...	1	...
Oxford Place, Newtown	...	...	...	...	...	1	...
Paddock	...	...	...	...	...	...	1
Parson Street	...	...	...	...	1	...	...
Park Street	...	1	...	...	...	...	1
Pennywell Road	...	...	...	...	1	3	4
Penstone Street	...	...	...	...	...	1	...
Perry Street	...	1	...	...	...	...	2
Phœnix Street	...	...	...	...	...	...	1
Philip Street	...	...	...	...	1	...	1
Pinnell Court	...	...	...	...	...	...	1
Pratten Court	...	...	...	...	...	1	...
Prospect Place	...	...	...	...	...	1	...
Queen Victoria Street	...	1	...	...	...	...	...
Railway Terrace	...	...	...	...	...	1	...
Ranelagh Street	...	...	...	...	...	...	1
Regent Street	...	...	...	...	...	...	2
Regent Terrace	...	...	...	...	...	2	...
Richmond Road	...	...	...	...	...	1	...
Richmond Street	...	...	...	...	...	2	1
Rich's Lane	...	...	...	...	...	...	1
Saint Gabriel's Schoolhouse	...	...	1	...	...	...	...
Saint Silas' Place	...	...	...	...	1	...	...
Seal Street	...	...	...	...	1	1	1
Sevier Terrace	...	...	...	...	...	...	1
Seymour Road	...	...	...	...	...	...	1
Sion Road	...	...	...	...	...	...	1
Stanhope Street	...	...	...	1	...	...	...
Stanley Street	...	...	...	...	...	1	...
Stapleton Road	...	...	...	...	3	2	...
Stephen Street	...	1	...	...	1	...	1
Stuart Street	...	...	...	...	...	1	...
Sussex Street	...	...	...	1	...	...	...
Thrissell Street	...	1	...	...	...	...	...
Treefield Road	...	1	...	...	...	...	1
Twinnell Road	...	...	...	...	1	...	...
Twinnell Street	...	...	...	...	...	3	1
Tyler Street, Dings	...	1	...	...	...	2	...
Tyler Street, Marsh	...	...	...	...	...	1	...

ST. PHILIP.—Continued.

Name of Street.	Small Pox.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Diarrhœa.	Phthisis.	Pneumonia.
Upper Unity Street ...	...	...	...	...	...	1	...
Union Road	...	...	...	...	1	1	...
Vickery's Buildings ...	...	...	...	...	...	...	1
Victoria Road, Marsh ...	...	...	...	...	1	1	...
Victoria Street, Stapleton Road	...	...	...	...	...	1	...
Wade Street	...	...	...	...	...	1	2
Walpole Street	...	...	...	...	...	...	1
Waterloo Road	...	...	...	...	...	...	1
Waterloo Lane	...	...	...	...	...	1	...
Waterloo Street	...	...	...	...	...	1	...
Waterloo Terrace ...	...	...	...	...	1	2	1
Waterloo Square	...	...	...	...	1	...	1
Webb Street	...	...	...	...	...	...	1
Wellesley Street	...	...	1	...	...	...	...
Wellington Terrace ...	...	1	...	...	...	...	...
West Street	...	...	...	...	1	1	...
William Street	...	...	...	...	...	2	...
Willway Street	...	...	...	...	1	...	...
Winsford Street... ...	...	...	...	...	...	3	1
Winstanley Street ...	...	...	...	...	...	1	1
York Street, Dings ..	...	...	...	...	...	...	1
Total ...	0	16	4	14	29	107	74

WESTBURY.

Name of Street.	Small Pox.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Diarrhœa.	Phthisis.	Pneumonia.
Abbotsford Road ...	...	...	...	..	...	...	1
Alfred Cottages, Kingsdown	...	...	...	...	...	...	1
Alfred Place, Kingsdown ...	...	...	...	...	...	...	1
Auburn Road	...	...	...	...	...	...	1
Berkeley Road	...	1	...	...	....	...	1
Cotham Grove	...	...	1	...	...	...	...
Cotham Hill	...	...	...	...	...	1	...
Clarence Place	...	...	...	...	...	1	...
Clyde Park	...	...	...	...	...	1	...
Durdham Down	...	...	...	...	...	1	1
Eastfield Road	...	...	...	...	...	1	...
Fernbank Road	...	...	...	...	...	1	...
Grove Road	...	...	...	...	...	...	2
Highbury Parade ...	...	...	...	...	...	...	1
Paul Street	...	...	...	...	...	1	...
Portland Street, Kingsdown	...	...	...	...	...	1	2
Redland Road	...	...	...	...	...	1	...
Saint Matthew's Road ...	...	...	...	...	...	...	1
Walker Street, Kingsdown ...	...	...	...	...	1	...	...
Westfield Park	...	...	...	...	...	1	...
Woolcott Park	...	...	...	...	...	3	1
Woolcott Street	...	...	...	...	...	...	1
Zetland Road	...	...	...	...	...	1	...
Total ...	0	1	1	0	1	14	14

PART IV.

Meteorological Observations at Clifton College.*

1890. (230 *Feet above Mean Sea Level*).

January.—During the whole of this month, with the exception of three days at the beginning and two days near the end, the temperature was considerably above the average. The lowest temperature realized was 21 degs. on the 2nd, and on that day the maximum thermometer registered only 30·8 degs. The mean temperature for the month was 43·76 degs. as compared with the normal value 39·24 degs. There was frost on the ground on eight days.

In the third week of the month the barometer was very low, reading only 28·631 inches on the 23rd, and the quantity of rain was also unusually large, amounting to over three inches.

February.—This month was colder than usual, the mean temperature being 38·71 degs. as compared with the normal 41·19. It was also distinguished for the number of frosty days, the thermometer on the grass being below freezing point on 20 out of the 28 days. The lowest temperature reached was 24·3 degs on the 28th, and the highest 52·1 degs. on the 25th.

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* I am indebted to Mr. RINTOUL and Dr. BURDER for the Meteorological and Rainfall returns for the year.

There was a period of low pressure from the 13th to the 17th accompanied by the fall of ·365 inches of rain, and a subsidiary depression on the 20th and 21st accompanied by ·192 inches of rain. Otherwise the month was very dry.

March.--The first few days were extremely cold, the mean temperature being below freezing point on the 2nd, 3rd, and 4th. On the fourth the thermometer on the grass registered 18·8 degs. From the 6th onwards, the mean daily temperature was higher than the normal. The average temperature for the month was 44·68 degs. as against the normal 41·76 degs. The highest temperature recorded in the shade was 59·3 degs. on the 30th.

There was frost on the ground on nine days, and in the screen on five days.

The barometer showed great variations of pressure during the month, reading 30·589 on the 3rd, and 29·164 on the 16th. The readings were under 30 inches from the 5th to the 9th, and again from the 14th to the 26th.

April.—The temperature during this month was on the whole normal, the mean temperature for the month being 47·33 degs. The highest temperature recorded was 63·6 degs. on the 31st, and the lowest on the ground 27·3 degs. on the 12th. There was frost on the ground on ten days, and in the screen 4 feet above the ground, the temperature fell to freezing point on two days. There was a period of exceptionally low temperature lasting from the 9th to the 14th.

The barometer was unusually low during the greater part of the month, there being only three days after the 5th on which it rose above 30 inches.

May.--This month was marked by an unusually high temperature, the mean temperature falling below the normal on only four days. The hottest day was the 24th, when the maximum thermometer reading was 77·3 degs. The lowest temperature indicated by a thermometer lying on the grass, was 37·2 degs. on the 31st. The mean temperature of the month was 54·92 degs., as compared with a normal value of 51·13 degs., thus showing an excess of 3·79 degs.

The atmospheric pressure was low during the greater part of the month, the lowest reading being 29·410 inches on the 10th, and this low reading was accompanied by a very heavy fall of rain. The pressure recovered itself during the last week of the month, and there was no rain worth mentioning after the 21st.

June.—The mean temperature for this month was 57·54 degs., as compared with a normal temperature of 58·42 degs. The highest reading was 71·3 degs. on the 25th, and the lowest 38 degs. on the 1st. The temperature fell considerably below the normal on the last four days of the month. The daily range of temperature was nearly constant during the month.

There were two periods of low barometer, one from the 9th to the 13th, and the other beginning on the 26th; both were accompanied by considerable quantities of rain, the last being especially serious. There were fourteen rainy days.

July.—The mean daily temperature during the month was below the average on 21 days. The highest daily mean temperature was 65·5 degs. on the 23rd, the average for the month being 59·14 degs. as compared with the normal value 61·35 degs. The highest shade temperature recorded during the month was 71 degs. on the 20th and 22nd, and the lowest temperature on the grass, 44·5 degs. on the 10th. During the month the weather was very unsettled, and rain fell on 18 days. On the 18th and 28th there were very heavy falls of rain amounting on the first occasion to 1·17 inches, and on the second to ·970 inches.

August.—The mean temperature for this month was 59·38 degs., as compared with the normal 59·95 degs. The mean daily temperature was below the normal on 15 days, the first half of the month being warmer, and the second half colder than usual. The highest temperature in the shade was 74 degs. on the 6th, and the lowest in the screen 41 degs. on the 30th. There was not much radiation, the minimum temperature on the grass being on an average about 2 degs. below that in the screen.

The barometric pressure was on the whole steadier than in July, but there were 20 rainy days; the greatest rainfall being 740 inches on the 11th.

September.—This month was much warmer than usual, the mean temperature was 59·67 degs., being 3·47 degs. above the normal, and higher than that of either July or August. On two days only, the 1st and 2nd, was the mean temperature below the normal. This high mean temperature was accompanied in the middle of the month with a very large daily range. The coldest day was the 1st, with a mean temperature of 53·2 degs., and a minimum temperature on the grass of 39·1 degs. The highest temperature recorded was 76 degs. on the 6th.

The barometric pressure was fairly steady with high barometer during the first two weeks: a depression during the third week was accompanied by considerable rainfall. From the 21st to the 24th there was rain with a rising barometer.

It may be noted that on eight days the *minimum* temperature in the screen was above the normal *mean* temperature.

October.—The mean temperature for the month was 51·25 degs. as compared with the normal temperature for October of 48·60 degs., thus showing an excess of 3·35 degs. The mean daily temperature fell below the normal on five days only. In the second week of the month there was a very large daily range, amounting to 26·4 degs. on the 12th. There was a short period of cold weather from the 27th to the 29th, the temperature on the grass falling to 27 degs. on the 28th.

There were four periods of low barometric pressure, the first in the beginning of the month, the second on the 7th, the third on the 15th and 16th, and the fourth on the 26th.

November.—The mean temperature of November was 44·88 degs., as compared with the normal temperature, deduced from observations during the last nine years, of 44·65 degs. Thus, on the whole, the month was a normal one. As regards the mean daily temperatures it may be divided into three parts—the first being a period of average mean temperature from the 1st to the 11th; the next a period of high temperature from the 12th to the 24th; and the third a period of very low temperature from the 24th till the end of the month.

So rapid was the fall in temperature that, whereas on the 24th the *lowest* temperature recorded was *above* the normal mean temperature for the day, on the following day the *highest* temperature reached was *below* that normal. From the 26th to the 29th inclusive the mean temperature was below freezing point, and on the 28th and 29th the maximum temperature was below freezing point. There was frost on the ground on seven days.

The barometer was very low and unsteady for the first thirteen days, and in that period there were ten days of rain. There was again a period of low pressure about the 24th.

December.—This month was very remarkable for the extremely low temperature prevailing during the whole time The mean temperature of the month was 30·12 degs., as compared with the normal 40·49 degs., thus showing a defect of 10·37 deg. The mean daily temperature *never* rose so high as the normal, and the *maximum* temperature exceeded the normal *mean* temperature on two days only. There was frost every day from the 6th till the end of the month, and not only so, but the maximum temperature never rose above freezing point on 14 of these days.

The barometric pressure was highest, 30·363 inches, on the 24th; and lowest, 29·727 inches, on the 19th.

D.R

Rainfall of 1890.

Week Ending.		Rain. Inches.	Week Ending.		Rain. Inches.
January	4	0·297	July	5	0·936
,,	11	0·502	,,	12	0·418
,,	18	0 636	,,	19	1·588
,,	25	1·478	,,	26	0·302
February	1	0·995	August	2	1·124
,,	8	0·002	,,	9	0·760
,,	15	0·308	,,	16	0·393
,,	22	0·263	,,	23	0·454
March	1	0·031	,,	30	1·173
,,	8	0·239	Sept.	6	0·031
,,	15	0·133	,,	13	nil
,,	22	0·234	,,	20	0·835
,,	29	0·472	,,	27	0·444
April	5	nil	Oct.	4	0·190
,,	12	0·391	,,	11	0·664
,,	19	0·103	,,	18	0·251
,,	26	0·631	,,	25	0·519
May	3	0·051	Nov.	1	0·337
,,	10	1·009	,,	8	1·292
,,	17	0·334	,,	15	0·521
,,	24	0·479	,,	22	0·414
,,	31	0·011	,,	29	0·152
June	7	0·111	Dec.	6	0·283
,,	14	0·651	,,	13	0·015
,,	21	0·399	,,	20	0·738
,,	28	1·055	,,	27	0·255
			Jan.	3	0·083

The rainfall of the year 1890 was seriously deficient amounting to barely 25 inches, and falling short of the average by nearly nine inches. The deficiency was even greater than in 1887, which will be remembered as a very dry year. It is 20 years since so small an annual fall was recorded.

It is worthy of note that of the last four years three have been marked by a considerable deficiency of rain, and one by a trifling excess. The average deficiency of the four years has been about five inches, or nearly 15 per cent.

Regarding the rainfall of the past year in detail, we find that three of the months—January, June, and July—presented an excess of rain, but the excess was in no case large. The other nine months were all short of the average; January was the rainiest of the months, February was the driest, the former yielding nearly four inches of rain, the latter not much more than half an inch.

Notwithstanding the general dryness of the year the distribution of the rainfall was such that indications of drought were seldom conspicuous. In the summer months, when from various causes a deficiency of rain attracts special attention, the weather was frequently unsettled and showery, and at no time of the year was there any such prolonged absence of rain as characterized the year 1887. The longest intervals of nearly rainless weather were (1) from January 28th to February 14th (17 days); (2) from February 19th to March 7th (16 days); and (3) from August 29th to September 17th (19 days). In neither of these periods did the downfall amount to more than a few hundredths of an inch.

Snow (the melted equivalent of which is always counted as rain) fell on the 18th to the 21st of December to an average depth of eight inches.

G.F.B.

Meteorology for the 53 Weeks ending 3rd January, 1891.

Height above Mean Sea Level—250 feet.

1890.	BAROMETRIC PRESSURE at 32° and sea level.			Mean Temperature.	Highest Mean Daily Temperature.	Lowest Mean Daily Temperature.	Max. Temperature in Shade.	Min. Temperature at 4ft above ground.	Min. Temperature on Grass-	Mean Daily Range of Thermometer	Greatest Daily Range of Thermometer	Smallest Daily Range of Thermometer	Mean Humidity	Grains of Vapour in a cubic ft. of air.	Prevalent Wind.
Week Ending	Mean.	Highest	Lowest.												
	Inches.	Inches.	Inches.												
Jan. 4	30·15	30·44	29·65	34·04	41·4	26·25	51.2	21·8	21·1	11·73	19·6	7·1	92	2·31	S W
,, 11	30·12	30·31	29·61	48·4	50·7	45·8	54·3	39·4	33·7	7·7	13·2	1·5	88	3·48	S W
,, 18	30·07	30·24	29·72	47·1	50·1	44·8	52·7	39·2	30·5	7·3	12·3	0·7	88	3·34	S S W
,, 25	29·34	29.66	28·63	42·85	48·3	38·2	54·3	34·2	29·9	11·27	16·3	8·1	81	2·85	W S W
Feb. 1	30·15	30·45	29·74	42·53	46·65	36·65	50·3	32·3	29·0	7·91	14·8	1·7	86	2·71	Variable
,, 8	30·27	30·44	30·15	38·1	46·1	35·2	49·3	29·5	26·2	11·27	19·8	5·9	91	2·34	E
,, 15	29·95	30·25	29·65	35·43	37·8	33·25	45·3	28·2	25·2	11·10	17·1	7·9	88	2·08	E & S
,, 22	30·04	30·47	29·62	41·6	44·4	38·25	49·3	35·2	29·9	9·36	12·3	4·1	92	2·60	Variable
Mar. 1	30·47	30·71	30·06	38·33	42·85	35·1	52·1	26·9	24·8	16·8	18·5	4·6	71	2·04	N N E
,, 8	30·09	30·58	29·61	38·76	48·65	29·6	52·3	20·4	18·8	12·8	22·5	7·3	83	2·53	Variable
,, 15	30·01	30·36	29·58	46·1	49·45	41·00	53·3	34·2	29·3	8·86	13·6	2·1	82	2·99	Variable
,, 22	29·50	29·78	29·16	45·6	49·9	41·7	35·7		31·0	11·4	15·6	6·5	80	2·61	Variable
,, 29	29·73	30·04	29·26	49·0	53.5	42·8	58·8	39·1	33·1	8·03	11·9	3·4	91	3·5	Variable
April 5	30·20	30·37	30·03	40·29	47·9	43·0	61·0	31·0	29·0	21·7	27·3	18·1	75	2·39	N E
,, 12	29·74	29·96	29·40	45·44	50·75	40·5	56·3	32·3	27·3	11·9	17·6	5·4	86	2·87	Variable
,, 19	29·55	29·94	29·35	46·11	51·65	42·35	59·4	35·9	30·9	10·4	18·2	3·4	82	2·96	E
,, 26	29·84	30·14	29·32	48·81	51·50	46·85	54·8	40·4	30·5	10·2	13·3	6·6	85	3·31	Variable
May 3	29·91	29·99	29·85	51·62	55·80	46·70	67·3	37·0	32·3	20·1	23·0	15·9	71	3·24	Variable
,, 10	29·59	29·71	29·41	52·56	54·75	49·60	64·3	44·2	38·5	13·46	19·1	4·6	84	3·62	E
,, 17	29·73	30·02	29·48	54·39	59·45	50·9	70·1	45·0	43·0	14·16	21·3	9·8	78	3·68	Variable
,, 24	29·96	30·29	29·67	56·45	64·15	51·05	77·3	42·0	45·0	15·2	26·3	4·9	84	4·17	E
,, 31	30·06	30·20	29·89	55·55	64·45	50·3	76·3	39·3	37·2	19·0	23·7	11·3	74	3·69	N
June 7	30·00	30·34	29·81	55·60	57.95	51·55	65·3	41·8	38·0	10·6	19·5	6·8	78	3·02	N W
,, 14	29·97	30·39	29·63	56·35	58·65	52·35	66·5	47·4	44·0	13·0	19·0	9·9	81	4·15	Variable
,, 21	30·18	30·40	30·04	58·60	59·70	56·75	67·6	51·0	47·5	12·1	16·6	8·9	86	4·42	N W
,, 28	30·04	30·22	29·82	60·11	62·85	55·95	71·3	50·4	50·1	11·73	18.1	8·3	87	4·75	W

Meteorology for the 53 Weeks—*Continued.*

Height above Mean Sea Level—250 feet.

1890.	BAROMETRIC PRESSURE at 32° and sea level.			Mean Temper ature.	Highest Mean Daily Temper-ature.	Lowest Mean Daily Temper-ature.	Max. Temper ature in Shade.	Min. Temper-ature at 4ft above ground.	Min. Temper-ature on Grass.	Mean Daily Range of Ther-mometer	Greatest Daily Range of Ther-mometer	Smallest Daily Range of Ther-mometer	Mean Humidity	Grains of Vapour in a cubic ft. of air.	Prevalent Wind.
Week Ending.	Mean.	Highest	Lowest												
	Inches.	Inches.	Inches.												
July 5	29·68	29·93	29·31	56·7	60·0	54·4	64·3	45·1	45·1	13·4	18·6	8·6	86	4·36	N W
,, 12	29·88	30·06	29·51	56·21	57.9	54·05	65·2	47·0	44·5	12·7	18·2	8·6	75	3·93	Variable
,, 19	29·93	30·02	29·83	58·40	61·0	54·3	70·0	46·0	46·0	11·83	18·0	6·0	80	4·51	N W
,, 26	30·15	30·27	30·00	62·37	65·55	60·4	71·0	49·8	47·3	13·34	21·2	7·1	77	4·64	N W
Aug. 2	29·93	30·04	29·83	59·46	64·8	56·85	69·1	50·0	51·8	10·5	13·7	4·9	80	4·9	W
,, 9	30·17	30·23	30·04	62·8	66·45	60·5	74·1	50·7	49·6	15·1	21·1	9·5	76	4·8	N W
,, 16	29·76	29·82	29·66	61·6	64·7	57·7	76	52·6	51·2	10·9	16·2	8·8	79	4·58	N W
,, 23	29·83	30·10	29·45	58·5	64·5	52·0	65·3	51·0	48·4	10	13·8	5·6	73	4·33	N W
,, 30	29·78	30·12	29·43	54·2	55·3	52·25	65·3	41·5	39·7	14·2	22·5	7·5	76·5	3·9	W to N
Sept. 6	30·31	30·42	30·15	58·0	61·4	53·2	76·0	42·1	39·1	13·6	22·2	5·7	82	4·65	N W
,, 13	30·32	30·47	30·23	61·03	64·65	55·3	74·7	49·5	46·4	19	23·1	13·3	69	4·45	NEtoSE
,, 20	29 96	30·25	29·51	59·71	60·85	57·75	73·6	48·1	43·5	14·8	25·5	7·3	78	4·56	Variable
,, 27	30·10	30·47	29·63	57·86	61·80	53·90	70·6	47·5	44·5	10·53	17·6	6·8	89	4·73	N W
Oct. 4	30·14	30·29	29·70	56·25	59·30	51·35	64·1	43·1	40·2	10·21	16·5	5·6	86	4·38	Variable
,, 11	30 20	30·47	29·52	54·57	58·40	50·85	63·3	39·1	36·5	12·7	23·5	4·1	92	4·18	N W
,, 18	30·07	30·42	29·73	52·41	55·90	50·35	69·1	39·8	35·4	18·17	26·4	10·0	86	3·49	N W
,, 25	30·28	30·54	29·79	48·33	52·95	44·45	56·3	36·6	32·0	10·5	18·4	1·5	87·6	3·56	N
Nov. 1	29·84	30·12	29·49	47 89	55·15	42·2	57·8	32·0	27·0	10·73	20·4	3·6	85	3·39	W N W
,, 8	29·54	29·84	29·26	46·76	50·45	43·90	55·1	36·7	33·4	10·0	14·4	6·8	83	2·95	N W
,, 15	29·80	30·19	29·39	46·16	48·6	43·75	57·3	35·2	29·9	13·3	19·8	7·4	86	2·85	Variable
,, 22	30·35	30·52	30·16	50·17	53·35	47·0	56·5	42·5	39·0	7·0	12·4	1·8	93	4·08	N W
,, 29	29·86	30·18	29·33	35·8	49·05	27·35	54·8	23·7	23·8	7·3	11·5	5·5	88	2·59	N
Dec. 6	29·92	30·36	29·71	36·68	38·85	34·80	44·5	27·2	25·1	7·8	15·2	2·1	85	2·25	E
,, 13	30·10	30·19	29·94	30 00	33·80	27·80	36·1	24·2	23·6	4·23	7·9	1·0	89	1·80	E
,, 20	29·85	30 06	29·72	27·76	31·55	23·90	34·6	19·1	17·2	6·37	14·8	2·8	89	1·65	N E
,, 27	30·28	30·36	29·99	28·05	29·45	26·8	34·3	20·9	20·4	7·6	11·5	0·9	90	1·79	E
1891. Jan. 3	30·23	30·15	30·15	28·3	33·1	24·1	40.1	19·8	20·2	7·7	14·2	1·7	94	2.13	E

ANALYSIS OF DEATHS REGISTERED IN THE CITY AND COUNTY OF BRISTOL,

DURING THE YEAR 1890, *ENDING SATURDAY, JANUARY 3rd,* 1891.

							Principal Zymotic Diseases.																		Respiratory		Nervous System		Circulatory		Digestive		Urinary	Puerperal							Rates per 1000 per Annum				
Registration Districts.	Sub-Registration Districts.	Births	Deaths	Under one year of age	Over 1 and under 5 years of age	Aged 60 years and upwards	Small-pox	Measles	Whooping-cough	Diphtheria	Scarlet Fever	Enteric Fever	Typhus	Influenza	Others or doubtful.	Diarrhœa & Dysentery	Asiatic Cholera	Total Deaths from Zymotic Diseases	Erysipelas	Syphilis	Rheumatism	Malignant Disease, Cancer	General Tubercular Diseases.	Phthisis	Pneumonia	Bronchitis & other Diseases of Respiratory Organs	Diseases of the Brain and Membranes	Other Diseases of the Nervous System	Diseases of the Heart	Other Diseases of the Circulation	Diseases of the Liver	Diseases of other Digestive Organs	Diseases of the Urinary Organs	Puerperal Fever	Other Puerperal Diseases (Not Infectious)	Premature Birth Congenital Malformations	Violence	Other causes	Inquest cases	Uncertified Deaths	Birth Rate	Death Rate	Zymotic Rate	Phthisis Rate	Infantile Rate per 1000 Births.
Bristol	St. Mary Redcliff	277	221	48	32	56	..	1	8	...	2	1	...	5	1	6	...	24	1	1	...	7	10	19	15	35	14	9	22	5	2	10	6	...	1	5	3	32	13	6	34·2	27·2	2·9	2·2	173·3
,,	Castle Precincts	155	162	25	19	41	...	1	11	...	...	...	...	1	...	1	...	14	...	1	...	5	3	8	8	22	10	5	13	4	2	6	5	1	...	1	32	22	43	5	29 6	31·0	2·6	1·4	160·0
,,	St. Paul	645	401	105	65	90	..	22	15	...	3	2	...	1	...	12	...	55	...	2	...	14	10	53	23	56	22	20	29	6	2	18	8	1	1	9	8	64	24	8	31·3	19·5	2·6	2·5	162·7
,,	St. James	203	153	23	20	43	...	7	4	2	...	1	...	1	...	2	...	17	1	2	1	4	1	17	7	28	13	5	20	...	1	8	6	1	1	2	3	15	8	2	27·2	20·5	2·2	2·2	113·3
,,	St. Augustine	324	264	50	40	79	...	7	13	...	1	2	...	4	...	2	...	29	...	...	2	15	9	22	11	35	14	16	26	4	4	10	8	..	1	6	6	46	21	6	24·4	19·9	2·1	1·7	154·3
Bedminster ..	Bedminster	1691	805	244	111	172	...	12	29	3	5	3	...	12	1	28	...	93	1	3	5	34	39	60	59	104	51	49	49	7	8	38	15	2	3	30	19	136	44	17	34·8	16·6	1·9	1·3	144·21
Barton Regis ..	Clifton	547	414	64	36	181	...	1	15	...	2	3	...	7	...	6	...	34	3	1	4	20	12	30	21	46	45	17	57	6	6	19	11	...	3	8	10	61	16	17	17·3	13·1	1·0	0·9	117·0
,,	Ashley	621	383	72	52	117	...	11	15	2	5	...	...	5	1	7	...	46	...	2	5	15	15	42	25	52	21	19	33	3	4	13	11	...	1	8	3	65	15	4	24·3	15·0	1·8	1·7	115·9
,,	St. Philip	1873	1121	308	183	208	...	26	75	7	19	16	...	10	...	29	...	182	1	5	3	26	27	111	74	208	60	62	88	2	14	32	17	7	8	35	32	127	68	28	32·5	19·4	3·1	1·9	164·4
,,	Westbury	250	194	29	15	97	...	1	10	1	2	...	...	4	...	1	...	19	2	...	1	11	6	14	12	17	11	8	28	3	3	10	6	..	1	2	9	31	9	2	13·5	10·9	1·0	0·8	116·0
,,	Extra-Municipal Institutions	48	320	17	14	170	...	2	6	..	...	2	1	3	...	2	...	16	...	6	2	6	7	31	11	23	84	12	29	4	1	9	3	...	...	...	4	72	4	...	...	...	...	...	...
,,	Not belonging to Borough	...	94	6	10	11	...	1	...	1	1	3	...	1	...	..	...	7	...	...	1	7	7	6	2	7	2	4	6	2	...	9	7	...	2	2	12	11	13	1	...	...	..	...	...
	Totals	6634	4532	991	597	1265	...	92	201	16	40	33	1	54	3	96	...	536	9	23	24	164	146	413	268	633	347	226	400	46	47	182	103	12	22	108	141	682	278	96	28·11	19·20	2·27	1·74	149·39

In the above Tahle the deaths occurring in Public Institutions have been distrihuted amongst the respective Sub-Districts from which they were received into the Institution. In this way the serious over-debiting of the Suh-Districts, Redcliff, Castle Precincts, St. James, St. Augustine, and Bedminster has been avoided.

Registration Districts.	Sub-Registration Districts.	Births	Deaths	Under one year of age	Over 1 and under 5 years of age	Aged 60 years and upwards	Small-pox	Measles	Whooping-cough	Diphtheria	Scarlet Fever	Enteric Fever	Typhus	Influenza	Others or doubtful.	Diarrhœa & Dysentery	Asiatic Cholera	Total Deaths from Zymotic Diseases	Erysipelas	Syphilis	Rheumatism	Malignant Disease, Cancer	General Tubercular Diseases.	Phthisis	Pneumonia	Bronchitis & other Diseases of Respiratory Organs	Diseases of the Brain and Membranes	Other Diseases of the Nervous System	Diseases of the Heart	Other Diseases of the Circulation	Diseases of the Liver	Diseases of other Digestive Organs	Diseases of the Urinary Organs	Puerperal Fever	Other Puerperal Diseases (Not Infectious)	Premature Birth Congenital Malformations	Violence	Other causes	Inquest cases	Uncertified Deaths	Birth Rate	Death Rate	Zymotic Rate	Phthisis Rate	Infantile Rate per 1000 Births.
	Public Institutions—																																												
	Royal Infirmary	...	204	15	18	30	...	4	...	1	...	5	...	...	...	2	...	12	...	1	1	13	13	17	9	22	9	7	20	5	3	13	12	1	1	1	27	17	24	...	..	...	...	...	...
	General Hospital	...	141	2	11	18	...	...	...	...	...	1	...	2	...	1	...	4	...	...	...	12	4	16	19	1	5	4	18	2	1	12	9	...	1	1	22	10	22	...	...	...	...	..	...
Extra Municipal..	Bristol Union Workhouse	...	120	3	4	74	...	...	1	...	..	...	1	1	...	...	..	3	...	2	...	5	2	11	1	8	24	2	16	2	...	2	1	...	..	...	3	38	2	...	.	...	...	...	...
	Barton Regis Union Workhouse	..	132	13	9	72	...	2	5	...	...	2	...	1	...	2	...	12	...	2	...	...	2	18	8	11	31	7	11	2	1	3	2	...	...	...	2	20	2	...	...	..	.	..	...
	Long Ashton Union Workhouse, Bedminster ...	...	22	2	...	11	...	...	...	...	..	...	...	...	...	...	...	..	...	2	2	1	...	...	1	3	8	...	..	...	...	...	2	...	...	...	...	3	...	...	...	...	...	...	...
	Lunatic Asylum	...	46	...	...	11	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	1	4	1	1	24	3	2	...	...	...	1	...	...	...	...	9	...	...	...	...	...	...	...
Sanitary Authority's Hospitals	Small Pox Hospital	...	...	...	.	...	...	...	...	...	...	..	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fever Hospital	...	4	...	1	...	...	...	...	...	4	...	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	St. Peter's Hospital	...	7	4	...	2	..	...	...	...	..	...	...	.	...	1	...	1	...	1	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...
	Children's Hospital	..	53	5	26	...	...	2	3	3	4	...	...	...	...	1	...	13	...	...	1	1	8	2	3	1	4	3	4	...	...	2	...	...	1	1	1	8	1	..	...	...	...	...	...
	Nursery for Homeless Infants	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...
	Home for Crippled Children	...	1	...	...	..	...	...	...	...	...	...	...	...	..	...	..	...	..	...	..	..	1	...	...	...	...	...	...	..	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...
	Total in Public Institutions	...	730	44	69	208	...	8	9	4	8	8	1	4	...	7	...	49	...	8	4	32	31	68	42	48	105	26	72	11	5	32	27	1	3	3	55	108	51	...	...		...	...	...

The average age at Death of Persons aged 60 years and upwards was 72 years and 9 months. The Births of 227 Illegitimate Children were registered during the Year and the Deaths of 80. Average Death Rate for the past 10 years, 18·87. Death Rate for last year, 17·53.

N° 3.

(A) TABLE OF DEATHS during the Year 1890, in the Urban Sanitary District of Bristol, classified according to Diseases, Ages, and Localities.

Names of Localities adopted for the purpose of these Statistics; public Institutions being shown as separate localities.	Mortality from all causes, at subjoined ages. At all ages.	Under 1 year.	1 and under 5	5 and under 15.	15 and under 25.	25 and under 60.	60 and upwards.		Mortality from subjoined causes, distinguishing Deaths of Children under 5 years of Age. 1 Smallpox.	2 Scarlatina.	3 Diphtheria	4 Membranous Croup.	5 Fevers. Typhus.	6 Fevers. Enteric or Typhoid.	7 Fevers. Continued	8 Fevers. Relapsing.	9 Fevers. Puerperal.	10 Cholera.	11 Erysipelas.	12 Measles.	13 Whooping Cough	14 Diarrhœa and Dysentery	15 Rheumatic Fever	16 Ague.	17 Phthisis.	18 Bronchitis, Pneumonia, and Pleurisy	19 Heart Disease.	20 Injuries.	21 All other Diseases.	22 Total.
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)																						
Saint Mary Redcliff ...	198	50	31	9	8	50	50	Under 5		1	1										8	6			1	18			46	81
								5 upwds.		1				1	1				1						18	26	19	1	49	117
Castle Precincts ...	142	20	19	15	7	51	30	Under 5													11					9		1	18	39
								5 upwds.									1					1			2	18	9	29	43	103
Saint Paul	373	101	64	6	8	104	90	Under 5		1										22	15	11			2	29			85	165
								5 upwds.		1				2			1					1			51	42	26	5	79	208
Saint James	125	21	16	7	4	37	40	Under 5			1									5	4					8			19	37
								5 upwds.						1			1		1	1					12	21	15	2	34	88
Saint Augustine ...	235	46	21	11	12	71	74	Under 5												6	12	2				11	1		35	67
								5 upwds.						1											16	31	21	4	95	168
Bedminster	734	244	97	26	31	170	166	Under 5		3	3								1	12	27	22			2	65		2	204	341
								5 upwds.		1				3	1		2				2	4			55	83	49	9	184	393
Clifton	395	64	36	9	12	94	180	Under 5		1				1					2	1	14	6			1	14	1	1	58	100
								5 upwds.						2					1				3		26	50	56	7	150	295
Ashley	364	70	52	35	19	72	116	Under 5		2	1									10	14	6			1	26	1	1	60	122
								5 upwds.		3	1				1								1		37	46	22	1	130	242
Saint Philip	1048	305	178	46	73	239	207	Under 5		9	1	3		2					1	26	74	27			14	123	1	4	298	483
								5 upwds.		7				12			6				1	2	1		93	146	72	12	213	565
Westbury	188	26	14	7	6	41	94	Under 5			1								2	1	10	1	1			8		1	15	40
								5 upwds.		1															14	22	26	6	80	148
Royal Infirmary ...	204	15	18	17	25	99	30	Under 5												4		2				5		4	18	33
								5 upwds.			1			5			1								17	25	20	23	79	171
General Hospital ...	141	2	11	16	13	81	18	Under 5		1												1				5		2	4	13
								5 upwds.						1											16	15	18	20	59	128
Children's Hospital ...	53	5	26	19	1	2		Under 5		3	3									2	3	1				2		1	16	31
								5 upwds.		1													1		2	2	3		13	22
Saint Peter's Hospital ...	7	4				1	2	Under 5														1							3	4
								5 upwds.																		1	1			3
Small Pox Hospital ...								Under 5																						
								5 upwds.																						
Fever Hospital ...	4		1	3				Under 5		1																				1
								5 upwds.		3																				3
Bristol Union Workhouse...	120	3	4		5	34	74	Under 5													1				1	1			4	7
								5 upwds.					1												10	8	16	3	75	113
Barton Regis do. do.	132	13	9	4	1	33	72	Under 5												1	5				1	1			16	22
								5 upwds						2						1		2			17	18	11	2	57	110
Long Ashton do. do.	22	2			1	8	11	Under 5																						2
								5 upwds.																		4			16	20
Lunatic Asylum ..	46				1	34	11	Under 5																						
								5 upwds.																	4	2	2		38	46
TOTALS	4532	991	597	231	227	1221	1265	Under 5		22	11	3		3					6	90	198	86	1		23	325	4	17	799	1588
								5 upwds.		18	2		1	30	3		12		3	2	3	10	6		390	560	396	124	1384	2944

The subjoined numbers have also to be taken into account in judging of the above records of mortality.

	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Deaths occurring outside the district among persons belonging thereto.			No	Return				Under 5																						
								5 upwds.																						
Deaths occurring within the district among persons not belonging thereto			No	Return				Under 5																						
								5 upwds.																						

LOCAL GOVERNMENT BOARD.—TABLE B.

K²11.
(B).

Table of **Population, Births, and of new CASES of Infectious Sickness,** coming to the knowledge of the Medical Officer of Health, during the year 1890, in the Urban Sanitary District of Bristol; classified according to DISEASES, AGES, and LOCALITIES.

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities. (a)	Population at all Ages. Census 1881. (b)	Population at all Ages. Estimated to middle of 1890. (c)	Registered Births (d)	Aged under 5 or over 5. (e)	New cases of Sickness in each Locality, coming to the knowledge of the Medical Officer of Health. 1 Smallpox.	2 Scarlatina.	3 Diphtheria.	4 Membranous Croup.	5 Fevers. Typhus.	6 Fevers. Enteric or Typhoid.	7 Fevers. Continued	8 Fevers. Relapsing.	9 Fevers. Puerperal.	10 Cholera.	11 Erysipelas.	12	13	Number of such Cases Removed from their Homes in the several Localities for Treatment in Isolation Hospital. 1 Smallpox.	2 Scarlatina.	3 Diphtheria.	4 Membranous Croup.	5 Fevers. Typhus.	6 Fevers. Enteric or Typhoid.	7 Fevers. Continued	8 Fevers. Relapsing.	9 Fevers. Puerperal.	10 Cholera.	11 Erysipelas.	12	13
St. Mary Redcliff H.H. ...	9602	7967	277	Under 5		6	1			2									1											
				5 upwds.		10	2			2	1				5				2				1							
Castle Precincts	6768	5135	155	Under 5		2																								
				5 upwds.		6				2					2								1							
St. Paul	18643	20220	645	Under 5		29	1	1											1											
				5 upwds.		52	4	2		10			1		9				6				2							
St James H....	8420	7315	203	Under 5		5													3	1										
				5 upwds.		9	1			1			2		9				1	1										
St. Augustine H.	14066	13019	324	Under 5		7									1				3											
				5 upwds.		12	1		3	1					6				8			3								
Bedminster H.	37741	47690	1691	Under 5		33	5			3									2											
				5 upwds.		46				14			2		27				7				2							
Clifton	28702	31039	547	Under 5		13		2							1				3											
				5 upwds.		55	8			18	2				16				21				4							
Ashley	19106	25093	621	Under 5		20	6								1					2										
				5 upwds.		49	3			4	1		1		3				2	1			1							
St. Philip H...	50108	56588	1873	Under 5		48	3	4		7					1					2			1							
				5 upwds.		124	3			46	2		5		17				11				13							
Westbury	13347	18182	250	Under 5		3	1												1											
				5 upwds.		26	8			4					5				5				1							
Bristol General Hospital	Admitted from outside of Borough.			Under 5																										
				5 upwds.																			5							
Bristol Royal Infirmary				Under 5																								1		
				5 upwds.																			3					1		
Children's Hospital				Under 5															4											
				5 upwds.																										
Totals	206503	232248	6634	Under 5		166	17	7		12					4				18				1					1		
				5 upwds.		390	30	2	3	102	6		11		99				63			3	33					1		

Notification of Infectious Disease has been compulsory in Bristol since February 12th, 1890. Only those Diseases Scheduled in the Act are at present Notifiable. The Isolation Hospitals used by the Sick of the District, are, —

NAME OF HOSPITAL.	DISEASES ISOLATED.	DISTRICT WHERE SITUATED.
1.—Sanitary Authority's Hospital	Small Pox and Scarlet Fever	Partly in St. Philip, and partly in St. Mary Redcliff
2.—Guardians' Hospital	Small Pox, Fever, Erysipelas	Stapleton, outside City
3.—Barton Regis Guardians' Hospital	Small Pox and Fever	Eastville, outside City
4.—Bedminster Guardians' Hospital	Small Pox or Fever	Bedminster, outside City
5.—Children's Hospital	Scarlet Fever, Erysipelas	St. Augustine
6.—Bristol General Hospital	Enteric Fever	Partly in St. Mary Redcliff, and partly in Bedminster
7.—Royal Infirmary	Ditto	St. James'.

Diphtheria is, as a rule, only admitted into Public Institutions in cases where operation is necessary.

PART V.

BRISTOL PORT SANITARY AUTHORITY.

REPORT OF THE MEDICAL OFFICERS OF HEALTH FOR THE YEAR ENDING DECEMBER 31st, 1890.

To THE CHAIRMAN AND MEMBERS OF THE
BRISTOL PORT SANITARY AUTHORITY.

February, 1891.

GENTLEMEN,

We beg to submit to you our Annual Report for 1890.

The Bristol Port Sanitary district includes the three widely separated Docks of Bristol, Avonmouth, and Portishead, together with the anchorage of Kingroad; the distance from the centre of the City to the furthest dock (Portishead) being upwards of twelve miles.

The Port Sanitary Authority is the Town Council. The Local Government Board have had in mind for some time the permanent constitution of this Authority, but up to the present it has been continued as a temporary Authority by Orders renewed from time to time.

A. SYSTEMATIC INSPECTION OF VESSELS.

Port Inspector of Nuisances	S. O. DIMOND.
Resident Inspector at Port Hospital, Avonmouth	E. MAYNE.
Port Authority's Boatman	A. DICKENS.

In order to secure the systematic inspection of arrivals for purposes of general sanitary control, the Resident Inspector at Avonmouth (which is situated at the mouth of the Bristol river, at a distance of some six or seven miles from the centre of the City) waits on all the day tides, makes due enquiries as to sickness, and serves upon masters the formal "*Caution" pointing out the necessity for reporting Infectious Diseases, under the Port Regulations, made in 1888. It is found to be impossible for him to make any detailed inspection of vessels running up on the tide to Bristol, so that these vessels are met and inspected by the Chief Port Inspector on arrival in the docks.

Vessels lying in Kingroad, or in Portishead or Avonmouth Docks, are visited and examined by the Inspector at Avonmouth.

Very great assistance is invariably rendered us by the Customs, who report at once any suspicious cases they may observe upon boarding, and to whose prompt information we are very frequently indebted.

The Chief Port Inspector of Nuisances reports that while the number of ship inspections shows some decline on the year as compared with those made in 1889, this is due in part to the smaller number of vessels of the sailing coaster

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*BRISTOL PORT SANITARY AUTHORITY.

NOTICE.

To the MASTER OR OFFICER IN CHARGE OF SHIP.

If you have any case of INFECTIOUS DISEASE, such as Diphtheria, Erysipelas, Measles, Scarlatina, Small Pox, Typhoid (or Enteric Fever) or Typhus Fever, on board, you are AT ONCE to give notice thereof to

THE MEDICAL OFFICER OF HEALTH,
Port Sanitary Authority's Hospital,
AVONMOUTH,

And to remove the patient to the said Hospital under his orders.

such disease appear after passing Avonmouth Dock, you are to report AT ONCE to

THE MEDICAL OFFICER OF HEALTH,
Port of Bristol Sanitary Offices,
40, PRINCE STREET, BRISTOL.

☞ *A Master failing to Report is liable to a heavy Penalty.*

Delivered
189
by Inspector

It is required by the "Public Health Act, 1875," that all Water Closets and Privies on Ships shall at all times, while in Port, be kept free from Nuisance, and all living spaces in clean condition.

D TRAVERS BURGES,
Clerk to the Authority

class which have entered the Port during the year, and in part also to the good general condition of the regular traders, which thus necessitates less frequent inspections. During the last quarter of the year, however, the number of entries to the Port have been so numerous as to keep the number of inspections up to the average.

Although fewer vessels were inspected, it will be noticed that the Sanitary defects discovered were greater in proportion than in 1889, no less than 28 per cent. of arrivals being found to have more or less serious defects causing nuisance.

Three hundred and eighty six notices were served in order to secure the abatement of these nuisances, and 81 per cent. of these notices are known to have been complied with, a larger percentage than in any previous year. In 1889, only 77 per cent. of notices were known to have been complied with before the vessels left the Port.

The most common nuisance found upon arrivals, consists in the dirty and unwholesome condition which the forecastles are allowed to assume during the voyage, a condition found in nearly one half of those upon which notice was served, and which appears to be due in about equal part to indifference of officers and of crew. The conditions found frequently indicate the absence of any cleansing during the whole voyage of perhaps some months duration, in which time an unsavoury accumulation of waste food, coal-dust, rags, old boots preserve tins, and general dirt has formed; and amidst this environment the men eat, live, and sleep in the very limited cubic space allotted to them. Stress of weather is occasionally, but not often, quoted as the cause for these conditions—which are willingly put right in nearly every case upon arrival.

A second common condition necessitating action is leakage and consequent dampness caused either by bad fittings, by straining from want of repair, or by condensation of water from the atmosphere in the interior of unlined iron berths.

This last condition is a very commonly observed defect, and even in the newer-built steel or iron vessels the men's quarters are frequently not cased so as to prevent condensation of water in cold weather, and intolerable heat in summer; so that it is quite conceivable as stated, that the men frequently prefer to lie about on the deck than to face the temperature of their forecastle.

This condition can only be dealt with by us as a nuisance likely to be injurious to the health of the crew. It would be dealing with the question more at the right end if the Board of Trade would stringently insist upon the proper provision of lining to iron berths during the construction of vessels.

Suspicious water supplies very often call for attention, and in all cases where Diarrhœal or other bowel complaints have appeared during the voyage, the tanks are cleansed and refilled on arrival. Enteric (Typhoid) Fever is not unfrequently found upon vessels that have drawn their drinking supply from rivers, that from the river Plate is often used but is by no means free from danger. The attention of the officers is always drawn to this point, to which they would do well to pay serious attention.

The position of water closets, stores, oil and lamp lockers frequently calls for adverse comment, as these are often placed so that foul or offensive odours must enter the living spaces—and the oil is sometimes stored so that in case of fire the flames would bar all egress. Every possible step is taken to secure alterations in these defects when found, and with some measure of success.

B. INFECTIOUS DISEASES ON VESSELS ARRIVING DURING 1890.

On Thursday, March 13th, the Barque "Castleton," from New York for Sharpness, brought to in Kingroad and reported a case of Small Pox. The patient A. G., aged 36, able seaman—a man of colour, was in the second week of Small Pox on arrival. He was at once removed to the Avonmouth Hospital where he recovered after a protracted illness, no one else on board was ill. His bed was burnt and his berth fumigated, and the vessel proceeded to Sharpness next day. A letter to the Local Medical Officer of Health advising him of her coming, and of the necessity for re-vaccination of many of the crew of 15 on arrival, preceded her. One man sickened after arrival at Sharpness and made a good recovery. No further cases occurred to our knowledge.

On Sunday, 16th of March, on receipt of a telegram from the Boarding Offices at Avonmouth, that a man was sick on the Brig "Kestrel," from Newfoundland, with supposed "Influenza."—We visited her and found a boy, I. A. T., aged 18, suffering from Enteric (Typhoid) Fever—he was removed on the 17th to the General Hospital, his bedding burnt, and his clothes and berth disinfected and cleansed. No other sickness on board.

On Sunday, July 13th, the Barque "Comorin" arrived from Halifax, and, as a seaman was reported sick, the vessel was visited and the man C. C. who appeared weak, and possibly to have been suffering from Enteric Fever, was admitted to the General Hospital. Upon further observation, however, the man did not appear to have any definite fever, and so he was discharged and sent home.

The following arrivals (1-5) were specially examined in consequence of the reported prevalence of Cholera in Spain:—

1.—On Wednesday, July 30th, the Barque "Stavanger" arrived from river Plate. Upon visiting we found one seaman, A. J., had sickened on June 9th, with abdominal pain and some Diarrhœa—appeared better from about the middle of June till the second week in July, when he relapsed and died on 16th July. About 20th June the steward, A. L. O., sickened with Headache, diarrhœa, fever and abdominal pain, and died on

July 27th. One other man was sick on arrival, but with dysentery of two years standing. The water obtained from the river Plate was probably infected and possibly the cause of both cases, which appear to have been Enteric (Typhoid) Fever ; the water was discharged overboard, the tanks cleansed, the bedding, clothes, and berths of the deceased were properly disinfected and cleansed.

2.—On Thursday, July 31st, the Barque "Thurdvern," from Shediac, was found on arrival to have one man sick on board, with abdominal pain, looseness of bowels, and debility. On examination, it appeared to be a case of advanced Phthisis of lung with implication of bowel. The case was admitted to the General Hospital.

3.—On Sunday, August 10th, the S.S. "Solon," from Marionople, arrived in Kingroad, with a history of cases of Diarrhœa. On examination, it appeared that the vessel left Marinople on July 19th, touched at Malta and there took in water, called at Gibraltar on August 2nd, leaving on August 3rd, and arriving in Kingroad on August 10th, bound for Sharpness. J. K., seaman, became ill two days after leaving Gibraltar with constipation, which, after much opening medicine, turned to Diarrhœa for two or three days. Another man, H., had Diarrhœa lasting five days, and four others had slighter attacks. There did not appear to be any thing serious about the cases, and the vessel was allowed to proceed to Sharpness. The Port Medical Officer of Health for Sharpness (Gloucester Port) was advised by letter of the circumstances, and of the supposed time of arrival of the vessel in his district.

4.—On Wednesday, August 27th, the S.S. "Indrani" arrived in Avonmouth Dock from Montreal. A

Lascar on board had been ill some days with Fever and Diarrhœa, apparently from cold and exposure in insufficient clothing. There was no suspicion of either "Enteric (Typhoid) Fever" or of "Cholera."

5.—On Friday, September 12th, the S.S. "Coot" arrived from Taganrog (Sea of Azov). Before touching at Malta, a man, J. M., had been ill for twelve days of Diarrhœa. They refused to take him at Malta, but he was put ashore at Gibraltar and went to hospital. A second man, F. F., developed Diarrhœa seven days after the first, and was ill for a week. He was convalescent on arrival, the attack not having been very severe. The rest of the crew were well. The water on board was partly from Constantinople and partly from Malta—the tanks were emptied, cleansed, and refilled. The W.C.s on board were also throughly disinfected and cleansed.

On Thursday, October 30th, the Barque "Dux" arrived in Bristol Dock from Brunswick (S. States of N. America). On examination we found that the vessel had sailed from Brunswick on August 21st, one week after which the Captain's wife was taken ill and died after an illness of four weeks. One of the seamen, A., was taken ill on September 3rd, and was found to be suffering from Enteric (Typhoid) Fever on arrival, he was removed to the Infirmary on the same day, and he subsequently died there. The rest of the crew were well: all clothes were properly disinfected at the central disinfecting station, the forecastle, &c., disinfected, and the water tanks and barrels cleansed and refilled.

C. SPECIAL PRECAUTIONS TAKEN DURING THE YEAR 1890, IN ANTICIPATION OF CHOLERA.

As, in June of this year, Cholera was reported to exist in the Spanish Port of Valencia, with which we have communication, very careful enquiry was instituted in order to ascertain that the course of action to be followed under the Local Government Board's Cholera Order of July 12th, 1883, in case of the importation of this disease, should be fully understood as between the Customs Officers and the Sanitary Authority, by whom its provisions are conjointly worked.

The Collector of Customs promised very ready and willing aid, and issued instructions to his officers to afford the Sanitary officials every facility in carrying out the provisions of the Order. At the same time particular attention was directed to the means for intercepting cases at the command of your Authority, and to the isolation provision at Avonmouth for the reception of such cases.

Upon August 18th, 1890, we presented a detailed report under the following heads :—

PROVISIONS OF CHOLERA ORDER.

1.—Detention by Customs of infected or suspected vessels, and notification of such detention to the Port Sanitary Authority.

Detention of vessels for 12 hours pending arrival of Medical Officer of Health to inspect.

The appointed place of anchorage is in Kingroad, so that no case of cholera or suspected cholera would in any case be brought up to the City Docks. The same anchorage would be used for any necessary further detention of the vessel, if declared infected.

2.—Provision for the reception of cholera patients, and of persons suffering from suspicious illness.

The Port Sanitary Authority have provided a wooden hospital (Port Sanitary Hospital), at Avonmouth, containing two wards (*m. and f.*), with five beds in each, and two smaller wards with one bed in each, which have to do duty for nurses' rooms and convalescent wards; there are also rooms for the

Resident Inspector and his wife, kitchen and other offices, and mortuary. One chief defect in the construction of these hospitals consists in the absence of any means for warming the large wards, and for the provision of hot water for baths. These defects will all be remedied under a recent decision of the Port Sanitary Committee, March, 1891.

Cholera, of course, occurs in hot weather; but other diseases, such as Small Pox, or Enteric Fever, have frequently to be nursed here at inclement seasons, and proper stoves are much needed.

Any water which may be required for baths has at present to be heated in the wash-house copper, and carried some distance from a separate building to the hospital.

Difficulty is frequently experienced in securing a nurse immediately upon a patient's admission, a difficulty which the intermittent use of the hospital renders unavoidable. Occasionally we have had to provide nursing help from the City Hospital.

3.—The report further dealt with the arrangements, as detailed in the Order, for detention of any infected vessel, examination of each one of the crew by the Medical Officer of Health, removal of the sick or suspected cases to hospital or to a place for observation, or if necessary their detention on board ship, the dismissal of the healthy to their destination, together with notification to the Local Medical Officer of Health of their intended arrival and of the circumstances of the case, and for the subsequent cleansing and disinfection of the vessel, the burning of infected articles, the dealing with infectious discharges, and arrangements for burying persons dead of cholera.

In conclusion the report stated—"We think that the "Port Sanitary Authority may consider that they "have fairly complied with the provisions of the "Cholera Order, and are prepared to deal effec-"tually with ship-brought cholera. It would be "extremely difficult for a cholera case brought by "ship to escape detection and isolation."

The following extract from the "Annual Statement of Navigation and Shipping in the United Kingdom, for the year 1889," may be of interest, as showing the number of vessels coming to Bristol from countries likely to be infected with cholera:—

Russia, South Ports	115
France, South Ports, about	10
Algeria	1
Portugal	9
Spain	44
Italy	9
Austrian Territories	1
Greece	5
Roumania	26
European Turkey	14
Asiatic Turkey (with Cyprus)	18
Egypt	7
Tripoli	1
Morocco	17
Total	277

Most of the vessels from Spain arrive between September and April, during the fruit season, except from the Port of Huelva, which sends a cargo of copper ore here about once a month. Cargoes of general goods arrive from Marseilles at odd times; about half a dozen grain cargoes arrive from Alexandria during the year, and about two come from Oran.

On August 28th, 1890, the General Cholera Regulations were re-issued by the Local Government Board, with some minor alterations in the details of adminstration of the Order. These have received our careful attention.

Cholera Regulations of the Local Government Board as to Rags from Spain, of date 4th September, were duly received and their provisions noted and widely advertised.

These Regulations prohibited the delivery overside (except for the purpose of export), or the landing in England or Wales, of any Rags from Spain, from and after the 12th day of September, 1890, and until the 31st day of December, 1890, and their intention was to prevent the possible introduction of the infection of Cholera into England by means of infected Rags.

Fortunately, no introduction of the disease occurred during the year, but the precautionary measures instituted in 1890 will be continuously exercised during 1891.

We are, Gentlemen,
Your obedient Servants,

D. S. DAVIES, M.B., D.P.H.,
Port Medical Officer of Health.

JOHN C. HEAVEN, L.R.C.P., D.P.H.,
Assistant Port Medical Officer of Health.

Port Sanitary.

TABLE A.

SHIP INSPECTION AT BRISTOL, AVONMOUTH,

Showing particulars of such Inspection,

1890	Number of Ships Inspected.		Nationality.		Sanitary Condition.		Ventilation and Lighting of Living Spaces.		
								Light.	Vent.
March Qr.	Steam	123	British	266	In good order	207	With	278	289
	Sailing	166	Foreign	23	Not satisfactory	82	Without	11	...
June Qr.	Steam	118	British	273	In good order	211	With	299	290
	Sailing	190	Foreign	35	Not satisfactory	97	Without	9	18
Sept. Qr.	Steam	127	British	238	In good order	209	With	281	268
	Sailing	160	Foreign	49	Not satisfactory	78	Without	6	19
Decr. Qr.	Steam	135	British	301	In good order	247	With	328	315
	Sailing	205	Foreign	39	Not satisfactory	93	Without	12	25
	Steam	503	British	1078	Good	874	Lighted & ventilated	1186	1162
	Sailing	721	Foreign	146	Bad	350	Not lighted or ventilated	38	62
Totals for Year.		1224		1224		1224		1224	1224

In addition to above, 429 Ships were met and spoken in Re-visits to see to compliance with Notices given, of which

TABLE A.

AND PORTISHEAD, FOR THE YEAR 1890.

the Action taken, and Results.

Foul or defective W.C's.	Decks Over Forecastle Leaking.	Total Number of Persons Composing Crew.	Description of Defects.	Number of Defects.	Number of notices given in respect of same.	Notices complied with.	
..	25	2986	Total number of defects found in respect of lighting, leakages, ventilation, cleaning, repairs and foul deposit.	108	83	Known to be complied with	71
...	...	...					
...	24	3918	Total defects found as above	178	99	Ditto	77
20	...	...					
...	21	3124					
8	...	...	Ditto ditto	143	92	Ditto	74
...	24	3398					
7	...	...	Ditto ditto	170	112	Ditto	92
...						Total	314
...						Now in force...	72
35	94	13426		599	386		386

the River, and Copies of the Port Sanitary Regulations served.
there were a large number, are not included in the above Table.

S. DIMOND,

Port Inspector of Nuisances.

Port Sanitary.

TABLE B.

SHOWING PROGRESSIVE WORK OF SHIP INSPECTION SINCE INSTITUTED.

Year.	Number of Ships Inspected.	CONDITION.			NOTICES.		Percentage of work known to be done.
		Good.	Unsatisfactory.	Percentage having Defects.	Served.	Complied with.	
1885 (4 months)	191	109	82	43 per cent.	82	34	41 per cent.
1886	722	577	145	20 per cent.	186	85	45 per cent.
1887	1461	1073	388	26 per cent.	388	270	69 per cent.
1888	1371	1072	299	22 per cent.	313	206	66 per cent.
1889	1339	995	344	25 per cent.	391	303	77 per cent.
1890	1224	874	350	28 per cent.	386	314	81 per cent.

The Vessels unaccounted for left the Port and have not been seen since, but there is reason to think the required work has been done in most cases. It is the custom of many ship owners to get repairs done at loading ports, and those so done cannot be added to our returns for want of definite information.

Port Sanitary.

TABLE C.

Infectious Diseases on Vessels during the year 1890.

	Name of Ship.	Where from.	Nature of Disease.	No. of Cases.	Died.	Re-covered.	REMARKS.
March 13th	" Castleton "	New York	Small Pox	1	...	1	This case was removed to the Avonmouth Port Sanitary Hospital. The Ship was disinfected, and the clothes removed for disinfection, or burnt, before the ship went on to Sharpness next morning.
,, 16th	" Kestrel "	Harbor Grace	Enteric	1	...	1	Case removed to the General Hospital, and all disinfection and cleansing done.
April 25th	"S.S. Good Hope "	Monte Video	,,	1	1	...	The Engineer died in Hospital at Monte Video. On the vessel arriving here, the deceased's clothes were removed and disinfected, and the drinking water tanks emptied and cleansed. This was supposed to be Typhoid.
July 6th	"Maria Margaretha"	Rosario *via* Falmouth	,,	2	1	1	One man died during the passage, and a second man was removed to the Infectious Diseases Hospital, at Falmouth, supposed to be suffering from Typhoid. The forecastles were cleaned, water tanks disinfected.
July 31st	" Stavanger "	River Plate	,,	2	2	...	In both cases death ensued on the passage, all disinfection and cleansing was done as soon as possible on arrival.
August 1st	" Modum "	Rosario	Fever	6	2	...	Six men were sent to Hospital, at Rosario, of whom two died, no information to hand respecting the others. All cleansing, disinfection of clothes, berths, and tanks done on arrival here.
Sept. 15th	" S. S. Shaftsbury "	Buenos Ayres	Small Pox	1	...	1	A man suffering from Small Pox had been landed at St. Nicholas, River Plate. No further cases. His bedding and clothes were disinfected on arrival.
October 1st	" Bivouac "	Rotterdam	Enteric	1	...	1	This case developed about two days after arrival. The man was treated at his home, and disinfection attended to by the District Inspector.
,, 30th	" Dux "	Brunswick	,,	2	2	...	The Captain's wife died on the passage, and a seaman was suffering from the same disease on arrival. He was removed to the Infirmary, and died November 6th.

Table C.—Continued.

Other Diseases.

	Name of Ship.	Where from.	Nature of Disease.	No. of Cases.	Died.	Re-covered	REMARKS.
April 18th	" S. S. Cairndhu "	River Plate	Diarrhœa	10	...	10	Two men where removed to Hospital at Monte Video, the remainder were attacked on the passage, but had nearly recovered before arrival here. The water tanks were emptied and cleansed, and the berths cleaned out.
July 14th	" Comorin "	Halifax	,,	1	...	1	Removed and treated at the General Hospital. Tanks cleansed and forecastle disinfected.
,, 31st	" Thurdvern "	Shediac	Phthisis	1	...	...	Removed to the General Hospital.
Aug. 12th	" S. S. Solon "	Marianople	Diarrhœa	6	...	6	This ship was visited at Kingroad, and the men examined by the assistant Medical Officer of Health, and the vessel afterwards proceeded to Sharpness.
,, 27th	" S. S. Indrani "	Montreal	,,	1	...	1	Visited by assistant Medical Officer of Health at Avonmouth.
Sept. 12th	" Coot "	Taganrog	,,	2	...	2	Both cases were recovering when visited by Medical Officer of Health. The necessary cleansing and disinfection of water tanks was done.
Oct. 27th	" Cartago Novo "	Alexandria	,,	3	...	3	The water tanks were cleansed and disinfected under Notice.

293 Infected articles of Clothing were disinfected and returned to the owners.

REPORT OF CANAL BOAT INSPECTION FOR THE YEAR 1890.

To THE COMMITTEE OF THE
BRISTOL SANITARY AUTHORITY.

GENTLEMEN,

In compliance with section 3 of the Canal Boats Act, 1884, I beg to hand you a report of the work done in the district in carrying out the provisions of the Act and regulations made thereunder.

1.—The Port Inspector of Nuisances is the appointed Inspector of Canal Boats, and is remunerated in connection with his other duties.

2.—Sixty canal boats were inspected, and of these 11 were found not to be in accordance with the regulations, the remaining 49 were in good or fair condition.

This Port is not a large centre of Canal boat traffic, there being about 45 boats only trading in the district, and the major portion of these are owned by local carrying firms, who do not allow women or children to live in them. The same thing applies to most of the others, as it is seldom any women or children are found on them and then for but one or two trips, and no contraventions as to separation of the sexes or school attendance were noted.

Most of the cabins are maintained in fair order; the exceptions found were mostly in country boats, which were at once dealt with; 7 cases of dilapidation and 4 of leakage being found.

A. *Registration.*

All boats inspected were registered or were undergoing the process.

B. *Notification of change of Master.*

None were made.

C. *Absence of Certificates.*

All produced certificates with one exception, a new boat which was then being registered by another Authority.

D. *Marking.*

One case of obliteration of marking was observed and dealt with by Notice.

E. *Overcrowding.*

One case—three persons inhabiting a cabin registered for two. It appears this was unknown to the owner, the Master having taken the extra man to assist him on his own account The owner stopped this infringement on receipt of Notice

F. *Separation of the Sexes.*

No infringements noted.

G. *Cleanliness and Ventilation.*

Four cases of dirty cabins or insufficient ventilation were found.

H. *Removal of Bilge Water.*

This has been attended to, and pumps provided where required.

I. *Notification of Infectious Disease.*

No case found or reported.

J. *Refusal to admit.*

None.

4.—No legal proceedings were taken, as Notices were complied with.

5.—Eleven Notices were served, of which 8 have been complied with and 3 are now in force

6.—No cases of Infectious Disease were dealt with, but the Small Pox and Fever Hospitals adjoining the Canal are available if required.

8.—This Authority not being a Registration Authority under the Act, a Register is not kept.

I am, Gentlemen,
Yours obediently,
S. DIMOND,
Inspector of Canal Boats.

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FINIS.

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